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Operating in an Extreme Cold Environment . . . Page 18

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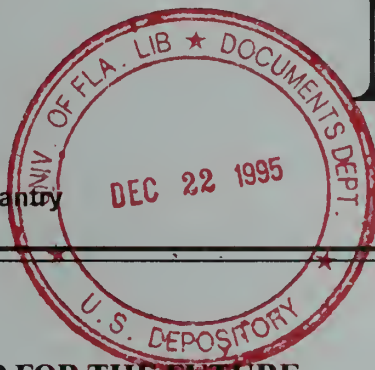
COVER: U.S. artillery continued to support the advance of American infantry until the surrender of the very last Japanese forces in the Philippines.

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Commandant's NOTE

MAJOR GENERAL JOHN W. HENDRIX Chief of Infantry



GEARING UP FOR THE FUTURE

The contributions of our Nation's industrial base to her success in past wars cannot be denied, and this support has never been more imperative than in today's world. Our ability to maintain the technological edge over potential adversaries can spell the difference between effective, credible deterrence and military, political, and economic ruin. During the past two decades, advances in digitization, own-the-night technology, and communications have propelled the United States and her allies to the forefront of our profession. Today, the weapons and equipment of the next century are already coming into the hands of our soldiers. In this issue of *INFANTRY* I want to outline some of the materiel improvements that will support and sustain the soldiers of Infantry Force XXI.

The Army is executing its modernization effort through programs ranging from those that exploit off-the-shelf technologies and non-developmental items, to others that will require a longer research and development period before the equipment is fielded. Regardless of the length of time required, however, the goal of the modernization effort is the same: to increase the individual soldier's combat effectiveness by providing him with systems that will improve his lethality and survivability on the battlefield. Current programs under consideration include enhancements to current weapons, ammunition, grenades, optical sights, and weapons mounts. Other programs slated for Fiscal Year 1996 will include non-lethal ammunition for 5.56mm and 40mm weapons.

Recent accomplishments in the area of small arms modernization have given us laser hardening filters for the M24 sniper optic—a significant step, given the availability of directed-energy weapons among potential threat forces. Other enhancements include a night sight bracket for the AT-4, and blank-firing adapters for the M249 light machinegun. Further improvements that you can expect to see are the Mk 93 dual mount for the M2 .50 caliber machinegun and the Mk 19 Mod 3 grenade machinegun, and dim tracer ammunition for the 7.62mm machinegun.

The M30 boresight equipment for small arms and associated sights will be fielded within the next 12 months, along with the M4 carbine and a close combat optic for the M16 and M4. A multiple 30-round M16/M4 magazine holder, a flash suppressor/blast attenuator for the M24 sniper system, the XM144 Straight Telescope, and a 100-round assault pack for the M249 light machinegun are also planned to be fielded within a year.

These weapons and their related equipment will be complemented by several improvements in communications, electronics, and night vision technology. The Lightweight Video Reconnaissance System (LVRS) is a small, low-cost, video recording and transmission system that will improve the accuracy and reporting of intelligence information by ground reconnaissance units; it is scheduled to be fielded in the fourth quarter of FY 1996. Also under development is a small,

lightweight radio that will give infantry squad members an individual communications capability to improve their situational awareness and increase their operational effectiveness. Fielding of the individual soldier radio (ISR) is planned for the third Quarter of FY 97.

A dual-capability sniper night sight is undergoing operational testing and is expected to be fielded early in FY 1996. The new sight will enable a sniper to engage targets day or night without having to remove and replace separate sights. It will also improve the sniper's ability to deliver precision fire from concealed positions under a greater range of visibility conditions.

But the improvements do not stop there; researchers in the developmental technologies associated with clothing and individual equipment (CIE) have responded to concerns from the field, and soldiers are already seeing the results of their input. The enhanced hot-weather battle dress uniform (BDU) is scheduled to be available in Military Clothing Sales Stores beginning 1 October 1995. The new BDU will be 50 percent more durable than the old uniform, and a new hot-weather BDU cap will be fielded during the same time frame. New soldiers entering the Army will be issued one temperate and one hot-weather BDU cap.

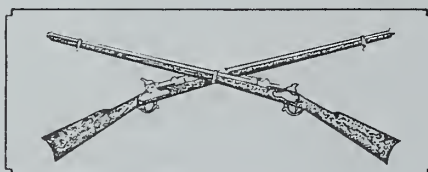
During the coming months, the popular Extended Cold Weather Clothing System (ECWCS) will be improved by the addition of a roll-and-stow hood along with design features to make it more waterproof. The improved rain suit will reduce perspiration buildup through the use of state-of-the-art breathable material. This rain suit was a popular item with the soldiers—especially those in light units—who tested it. Additionally, a modular sleeping bag system has been developed that will consist of a lightweight sleeping bag, a medium bag, a stuff sack, and a bivy cover. The two sleeping bags can be used separately or zipped together. This sleeping bag system will replace

the current sleeping bags, and can be used in all environments.

As any infantryman will tell you, foot care cannot be overemphasized, and the CIE developers have not overlooked this important area. Each new soldier will be issued three pairs of sock liners that can double as dress socks or serve as liners with boot socks; these are designed to help keep the feet dry while reducing chafing, another important factor, particularly for the light force.

Other items that are under development include a PASGT (personnel armor system for ground troops) helmet that is four ounces lighter than the current model, and an improved combat vehicle commander helmet that offers the same ballistic protection as the PASGT helmet. An improved eye-protection system that offers both ballistic and laser shielding, and an improved tactical load bearing vest are being developed as well. Improvements have also been made to the mechanic's coverall, the butt pack, and cold weather underwear, and units will receive a new MRE (meal, ready-to-eat) that offers 24 menus instead of the 12 currently issued.

Modernization will extend to virtually every aspect of our profession, and in this Commandant's Note I have highlighted some of those systems and items that will directly benefit the Infantryman. By carefully articulating our materiel requirements to the industries that can meet them, the Army has—as in the past—called upon our industrial base to meet the needs of the force. As further development and fielding of these and other items of equipment become reality, our modernization effort will pay tremendous dividends, in the form of increased survivability, supportability, and lethality of the Infantry force. These qualities will continue to be reflected in the confidence of our allies, and in the cautious respect of our potential adversaries, as our Nation moves forward into the 21st Century.



INFANTRY NEWS



THE FOLLOWING is an update on the doctrinal manuals prepared at the Infantry School: Several field manuals (FMs) or changes to FMs are scheduled for publication within the next six months:

FM 7-30, *The Infantry Brigade*. This manual describes how the dismounted infantry brigade conducts Army operations. It is designed to assist the brigade commander and his staff in planning, preparing, and executing combat operations within the range of military operations. Its primary focus is infantry warfighting and conventional combat operations. It also serves as a guide to the brigade's organization, capabilities, and employment. The publication of this manual completes the Infantry School's program to revise all of the manuals that apply to the non-mechanized infantry force worldwide.

Change 1 to FM 90-10-1, *An Infantryman's Guide to Combat in Built-up Areas*. This change updates Appendix G, MOUT Under Restrictive Conditions, with a much clearer discussion of high-intensity, precision, and surgical MOUT conditions and adds a discussion of the use of nonlethal weapons technology. It also adds appendixes titled Countering Urban Snipers, Close Quarters Combat Techniques, Employment of Armed Helicopters in Built-up Areas, Field Expedient Breaching of Common Urban Barriers, and Infantry and Armor Small-unit Actions in MOUT. The new appendixes result primarily from the Infantry School's analysis of combat lessons learned in Somalia and of lessons gathered from the experiences of United Nations and NATO forces in the Balkans.

FM 23-1, *Bradley Fighting Vehicle Gunnery*. The manual consists of two parts: Part One is the Crew Member's Handbook, and Part Two is the Training Manager's Handbook. It

THE ADVANCED COMBAT OPTICAL gunsight (ACOG), model 4x32 (NSN 1240-01-412-6608) (shown mounted on an early M4A1 prototype) has been chosen as standard issue for all Army and Navy special operations units. The scope, specifically modified for the new M4A1 carbine, will be part of a modification kit that will allow



provides Bradley-equipped units with Bradley gunnery theory, methods, and techniques; a description of system features and capabilities; and a program for training and evaluating individual, crew, section, and platoon proficiency in gunnery. It also includes Bradley gunnery information specific to cavalry and air defense artillery missions.

FM 57-220, *Static Line Parachuting Techniques and Training*. This manual supersedes FM 57-230, thus combining basic and advanced parachuting techniques. It is designed to standardize procedures for the initial qualification and training of personnel in their airborne operation duties and responsibilities. Key positions in these operations include the jumpmaster, assistant jumpmaster, safeties, departure airfield con-

field commanders in these units to choose equipment suited to a particular mission.

The compact gunsight features a self-luminous ranging reticle, forged aluminum construction (the same as M4 receivers), and a waterproof rating beyond Navy SEAL operating depths. Design modifications include an integral rear ghost-ring aperture, a tritium glow-in-the-dark front sight for close-combat and back-up sighting, a special mount designed for boresight retention, dust covers, and a reticle calibrated to the M4A1. The special mount clamps to the flat top rail of the carbine, which does not have the familiar carrying handle found on the M16A2.

The Special Operations ACOG, like the standard 4x32 ACOG, features a cross-hair reticle that is luminous in the dark but shows black in daylight. The tritium lamp lasts for ten years before replacement.

trol officer, and drop zone support officer and team leader.

In addition, the Infantry School is beginning the revision of three other important manuals: FM 71-2, *The Tank and Mechanized Infantry Battalion Task Force*; FM 90-4, *Air Assault Operations*; and FM 7-10, *The Infantry Rifle Company*. FMs 71-2 and 90-4 will be completely revised to update them and improve clarity and detail. A change to FM 7-10 will add detailed discussions of the employment of the Javelin medium antiarmor weapon and the laser countermine system, a newly fielded directed energy device to counter enemy fire control and night vision optics.

The Force XXI office of the Combined Arms and Tactics Department is also working on draft doctrinal publica-

tions to support the Advanced Warfighting Experiments scheduled for mid-1996. In these experiments, the infantry's efforts at digitization will be examined in detail.

THE SOLDIER CREW TENT (SCT), a product of the Soldier Enhancement Program, may soon replace the Lightweight (Arctic) Hex Tent.

The SCT is lightweight and free-standing, with a self-supporting frame and integral floor, and is designed to be erected by two soldiers in less than three minutes. It is constructed to withstand extreme temperature ranges and wind velocities.

The tent has 120 square feet of floor space, a center height of four feet, ten inches, and a total weight of 88 pounds, including cotton liner, fly, poles, pegs, cover, gear loft, and repair kit. It has two doors and a reversible undercover, camouflage green #483 on one side and either desert tan #459 or white on the other. It will accommodate the standard



Army M-1941 Yukon stove. (**WARNING:** The fabric does not breathe. Some windows and flaps must be left open for ventilation.) This tent has excellent blackout integrity.

The SCT will be a stock funded, CTA item with a unit cost of approximately \$1,300. A revised distribution plan is intended to provide an equitable distribution among the active heavy divisions. Quantities per division will allow two SCTs for each infantry fighting vehicle

and one per tank or cavalry fighting vehicle, with additional SCTs for partial fielding to the remaining tracked combat vehicles.

Units may order additional SCTs from CTA stocks as follows:

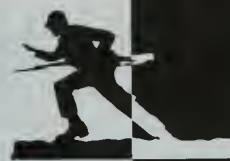
Type I—Reversible tan and green fly, NSN 8340-01-359-0084.

Type II—Reversible green and white fly, NSN 8340-01-359-1481.

Pin, Tent 9: Long (12 each), NSN 8340-00-261-9749.



PROFESSIONAL FORUM



The 100-meter Combat Shotgun

STANLEY C. CRIST

For nearly 100 years, the Army's standard-issue shotgun has been a slide-action 12-gauge. While the infantryman's rifle has been continually improved to meet the ever-changing requirements of combat, the issue shotgun of the 1990s does not differ in form and function from its World War I ancestor.

The ammunition situation is not much better, with a nine-pellet loading of 00 ("double-ought") buckshot being the longtime standard. This round has been refined from the paper-cased shells originally used, through the all-brass M19, to the current plastic-cased M162 ammunition. As with the shotgun, however, the performance of this ammunition differs little from that used at the beginning of the century. Consequently, the shotgun has always been considered a short-range weapon,

suitable for jungle warfare and guard duty but inadequate as a general-purpose battle instrument.

Improving the combat utility of the shotgun requires a dual-path effort: A state-of-the-art shotgun—designed expressly for the rigors of warfighting—should be developed; and a new generation of ammunition with better down-range performance must be created.

The most significant flaw in conventional shotguns is probably the slow and awkward loading procedure; with the tubular magazine, only one round at a time can be inserted into the weapon. As the British security forces discovered in Malaya—and as U.S. soldiers relearned in Vietnam—the ability to reload quickly during a firefight can be vital to mission success. A detachable box or drum magazine (or conceivably a belt-feed) is a necessity if the combat

shotgun is ever to achieve its full potential.

Additionally, an advanced shotgun should be semiautomatic, but only if reliable functioning under field conditions can be assured. This reliability factor has been the primary reason self-loading smoothbores have not superseded the manually operated designs.

Although some people advocate the incorporation of select-fire capability into any new weapon, this hardly seems critical. It is difficult to imagine a likely scenario in which automatic fire would really be necessary, and shotgun ammunition is much too heavy and bulky to be expended this way.

Finally, the shotgun would benefit greatly from the adoption of a "straight-line" stock. Conventional stock designs were configured for hunting guns. A properly designed stock could improve control and reduce felt recoil. While control in rapid fire is of little importance to the hunter, it can be very important to the point man on a jungle patrol.

Although there has been some research and development in ammunition, the standard multiple projectile round launches nine .33-caliber lead pellets at a nominal 1,325 feet per second. The current 00 buckshot load is definitely more effective than previous generations. Its muzzle velocity is 200



The ideal combat shotgun would have a straight-line stock and be fed by detachable magazines.

feet per second faster than the old M19 round, and the use of granulated filler material improves shot patterns by reducing pellet deformation during firing. Even so, at the engagement distances of 50 to 150 meters where most infantry combat occurs, the "double-ought" round is severely handicapped; its terminal energy at extended range is too slow to assure target incapacitation.

One solution to this problem is to increase the caliber of the individual pellets. This would require going to 000 ("triple-ought") buckshot, the largest size that can be loaded in useful numbers into the 12-gauge shell. Eight of the .36-caliber pellets, each of which is 27 percent heavier and nine percent larger than 00 buckshot, are also discharged at 1,325 feet per second. The 2¾-inch load is a nondevelopmental item (NDI) currently being manufactured and marketed by the major producers of shotgun ammunition. This loading, like the M162 round, uses conventional soft-lead pellets, but penetration capability is about 50 percent better than standard 00 buckshot.

As good as the 000 load is in NDI form, it can benefit from the same technology that has improved shotgun ammunition for the civilian market. This involves using pellets made from lead hardened with antimony, polished for an extra-smooth spherical shape, then plated with copper or nickel for additional toughness. Buffer material similar to that of the standard M162 load is used to keep the pellets from colliding with one another. Using a shot cup completely isolates the projectiles from the bore, so there is no damaging metal-to-metal contact. The pellets stay much rounder (compared to standard, soft-lead buckshot), they fly straighter (giving tighter patterns), and they retain velocity better (for increased target penetration). The end result is a high-performance (HP) round that is far superior to conventional buckshot.

Sadly, none of the manufacturers have 2¾-inch, HP 000 in their product lines. They do, however, offer a 3-inch magnum load that holds 10 hardened, plated pellets. A small quantity of two



Generic 000 buckshot (center) gives 50 percent better penetration than standard M162 00 buck (right) and three times as much as M257 #4 buckshot.

TEST LOADS				
LOAD	SHELL	SHOT	PELLETS	SHOT CUP
1	3-inch	000 Buck	8	No
2	3-inch	000 Buck	8	Yes
3	2 ¾-inch	000 Buck	8	No
4*	2 ¾-inch	00 Buck	9	No

*M162, used as control load.

Table 1

NUMBER OF HITS ON E-TYPE SILHOUETTE (Three Rounds Fired Each Load)				
LOAD	25m	50m	75m	100m
1	8-8-7* (96%)	4-2-5 (46%)	2-4-2 (33%)	0-1-1 (8%)
2	8-8-8 (100%)	5-4-7 (67%)	3-3-3 (37%)	2-1-0 (13%)
3	8-6-7 (88%)	3-4-3 (42%)	1-2-0 (13%)	0-1-0 (4%)
4	9-9-8 (96%)	4-5-5 (52%)	2-3-1 (22%)	0-0-2 (7%)

*Percentage denotes average hits out of three rounds.

Table 2

PENETRATION		
	LOAD 3	LOAD 4
¾-inch pine board, 50m	Yes	Yes
¾-inch pine board, 100m	Yes	Yes
¾-inch pine board, 150m	Yes	Partial
Sheet metal baffles, 25m	3	2

Table 3

versions of this loading were acquired for evaluation of the HP concept.

In the evaluation, two pellets were removed from each shell and their space was filled with additional buffer material, thereby creating eight-pellet trial loads.

A pattern board was set up for test shots to be fired at 25, 50, 75, and 100 meters. It was anticipated that at least three rounds of each load (Table 1) would be patterned at each range. Two experimental rounds of 3-inch, 000 buck, with eight pellets were

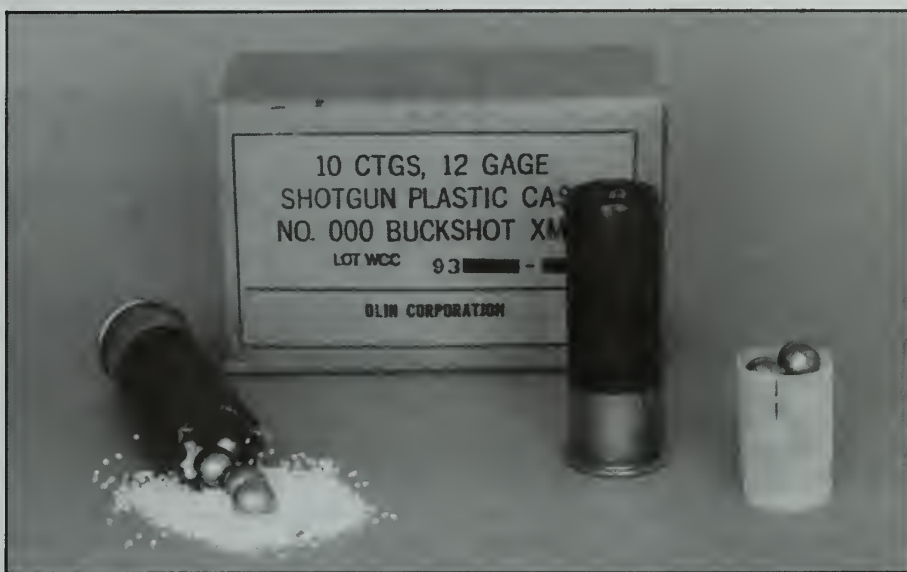
evaluated—Load 1 with no shot cup and Load 2 with shot cup. Also tested were a generic 2¾-inch, 000 buck, eight-pellet round (Load 3) and, for control purposes, the M162, 2¾-inch, 00 buck, nine-pellet round (Load 4). All loads were fired from a shotgun with cylinder bore, which is the typical choke for military smoothbores.

The first to be patterned was the control load (Load 4), which performed with nine out of nine pellets striking the silhouette target at 25 meters. This dropped to five pellets at 50 meters, two at 75 meters, and no assurance of a hit at 100 meters.

The generic, eight-pellet, 000 buck load (Load 3), exhibited patterns that were not quite as tight as the control round, getting seven hits out of eight at 25 meters and only three out of eight at 50 meters. The silhouette absorbed few hits at the longer ranges.

With the modified, 3-inch, 000 loads, the experiment did show some promising results (Table 2). Load 1 showed patterns comparable to those of the M162 and slightly better than those of the generic 000 buck. Load 2 achieved superior performance, producing tighter patterns at all ranges than any of the other loads. As with Load 1, this load uses hard, copper-plated shot surrounded by buffer material. In addition, the projectiles appear rounder, smoother, and more highly polished. Also, Load 2 uses a shot cup, protecting the pellets from being scuffed and scraped as they pass down the bore. The combination of these factors is apparently crucial to extending the effective range of combat shotgun ammunition to the maximum.

Limited testing of penetration capability was also conducted using Loads 3 and 4. (Modified 000 loads were not used in the penetration tests, as all had been expended in the pattern evaluations.) In the first test, a ¾-inch pine board was set up, first at 50 meters, then at 100 meters, and finally at 150 meters. All of the ammunition penetrated the board at the short and middle distances. At 150 meters, the M162 00 pellets were stopped, but the generic 000 punched through the pine



The ideal long-range combat load would have eight polished, hardened, and plated 000 pellets, protected by buffer and shot cup.

board without apparent difficulty.

A sheet-metal baffle, composed of .030-inch steel plates spaced three inches apart, was positioned at 25 meters. M162 00 buckshot penetrated two layers and made a minor dent in the third, while the generic 000 buck easily punched through three baffles. Previous experience with HP 00 ammunition (which can pierce three layers at 25 meters) indicates that an HP 000 round may be able to penetrate four of the steel plates, giving such a load twice the penetration of the current M162 ammunition.

Since even HP 000 buckshot is unlikely to put more than one pellet per round into the target at ranges beyond 75 meters, it becomes necessary to adopt the tactic of firing several shots in quick order. Indeed, this may be the only circumstance that could even remotely justify the full-automatic firing of a shotgun, because the target area needs to be rapidly saturated to neutralize the opponent before he can return fire. This tactic can also be efficiently implemented with a semi-automatic weapon, but a slide-action gun will be significantly less effective for most operators.

In the past decade, some manufacturers have developed self-loading, fighting shotguns that incorporate large-capacity, detachable magazines;

unfortunately, few have actually attained series production. There is still room for improvement in combat shotgun design and, hopefully, a truly advanced weapon will some day be manufactured.

In the meantime, the ammunition companies should be urged to produce a high-performance, 2¾-inch, 000 buckshot round that will maximize the long-range capability of the present generation of military shotguns.

This can be standard pressure ammunition, with eight hardened, plated pellets at 1,325 feet per second or, possibly, a high-velocity round that sends the eight 000 shot on their way at more than 1,400. Either of these options would be vastly superior to the M162 and would greatly increase the overall effectiveness and utility of the shotgun.

Whether the user of the combat shotgun is a military policeman confronting armed felons or a special operations soldier tracking down guerrillas, he deserves the best ammunition that can be made, and our Nation has the capability to develop and field that ammunition.

Stanley C. Crist served as a scout section leader in the 3d Battalion, 185th Armor. He has written numerous articles on small arms testing and evaluation, some of which have appeared in *INFANTRY*.

Intelligence For Contingency Planning

MICHAEL R. JACOBSON

Units with deployment missions must have a great deal of intelligence information before they can effectively conduct their contingency planning. I would like to identify some ways a battalion commander and S-2 can obtain the information they need.

Ideally, the intelligence information for each contingency mission should be provided by higher headquarters. For many reasons, it is neither realistic nor feasible to expect a battalion S-2 to gather information on five contingency areas for the Division Ready Force (DRF-1) mission. The S-2 may have two or three junior intelligence personnel and no direct intelligence resources to use in developing the information needed. A maneuver brigade has three times as many people but still does not have a source of intelligence, unless it is a separate brigade. The appropriate place for contingency intelligence packages to be developed is in a division or corps G-2 section, which has both the personnel and the intelligence resources to develop these packages.

Division and corps intelligence sections obtain the necessary intelligence through the establishment of a Defense Intelligence Agency (DIA) Statement of Intelligence Interest (SII) classified document account, which provides both classified and unclassified publications for their use. Many Army Reserve and Army National Guard units do not have DIA accounts and therefore do not receive this information, not even such unclassified documents as the CIA's *The World*

Factbook or the National Ground Intelligence Center's *How They Fight: Armies of the World*. On the other hand, many high-priority units have a variety of on-line intelligence systems that do provide quick responses to queries. In this article, I will deal with the manual system, not the automated systems.

The headquarters developing the contingency plans should prepare intelligence packages in sufficient quantities for each subordinate unit to have a copy. Both current and future DRF-1 units should have this intelligence information.

The contingency intelligence package should include as a minimum light and weather data, medical information on diseases in the area, an analysis of the area of operation, a list of the maps required, the enemy order of battle, and a list of references. If your higher headquarters does not provide you with all of this information, the following will help you get what you need:

Light and Weather Data. The U.S. Air Force staff weather officer (SWO) can provide light data (solar and lunar) and climatology for any area of the world. There is an SWO in each division and at most posts. The SWO has a computer program that will provide sunrise, sunset, moon rise, moon set, percentage of illumination, and night vision goggle information.

All the S-2 needs to do is provide the SWO with the latitude and longitude of the desired area and the time frame of interest. The operational climatic data summary comes from a book that

shows the historical norms for the area. This information is supplemented with weather forecasts once a unit is alerted. Field Manual (FM) 34-81-1, *Battlefield Weather Effects*, dated 1992, should be used to determine the effect weather will have on the unit's ability to accomplish the mission. Additionally, INFANTRY Magazine has published several articles on environmental influences on military operations. (*See the articles on cold regions, by Brigadier General Peter W. Clegg and Colonel Robert H. Clegg, in the July-August and September-October 1992 issues; the series on tropical regions, by Colonel Clegg, March-April and May-June 1993; and the series on temperate regions, by Colonel Clegg, July-August and September-October 1993.*)

Medical Information. The Armed Forces Medical Intelligence Center (AFMIC) is responsible for providing medical-related information and intelligence. This information includes diseases, environmental threats, and a country's medical capabilities. One of the primary means of disseminating this information is through the *Disease and Environmental Alert Report* (DEAR). The current DEAR is PC-1810-207-95, 1995. The report is updated at least once a year and is now available on CD-ROM; an on-line bulletin board system (BBS) is also available. It is available as a book and as an on-line information system called the Automated Infectious Disease Component of the Disease and Environmental Alert Report (DEAR).

This information should be available in local medical activities, libraries, or G-2 shops. The report discusses the diseases in a country, the weather, poisonous insects and snakes, and indigenous toxic plants. Other medical documents available include *Disease Occurrence*, *Medical Planning Factors*, and *Medical Capabilities Studies*. Additional information on the effects of diseases can be found in FM 8-33, *Control of Communicable Diseases in Man*, 1991.

Climatic and environmental information is vital for staff estimates and planning. The S-1 will use it to estimate personnel losses. The S-3 will use it to plan for the amount of time required to acclimatize the troops. The S-4 will use it to determine whether to requisition mosquito nets or overwhites. The maintenance officer will use it to plan for the required services and preparation for vehicles, aircraft, and equipment, and for any extra equipment that may be required, such as tire chains, fording kits, and heaters. Finally, the medical officer will use the information to plan for inoculations and medical treatment for non-battle casualties.

Maps and Topographic Products. The Defense Mapping Agency (DMA) publishes books that identify the areas for which they have maps and topographic products available. Various map scales, types of maps, maps of cities, and other topographic products are available. Normally, the activity that has the map account also has these books.

The primary books you will need to order maps are the DMA *Catalog of Maps, Charts, and Related Products*, Part 3—Volume I, Topographic Products All Scales; Volume II, General Information, Ordering Procedures, and Crisis Support; and the Quarterly Bulletin Digest. Your unit should have at least one set of planning maps and a list of the maps it will order if alerted. The number of maps the unit needs is determined by the guidelines in Army Regulation 115-11, *Army Topography*, 1980.

Another handy DMA product is one called the Gazetteers. A Gazetteer is a book that contains data on the cities

and key locations of a country. It lists the city or key location name, its latitude and longitude, its UTM (universal transverse mercator) prefix, and the Joint Operational Graphics (JOG) number. This book allows the S-2 to pick the correct map (because of the JOG number) and to be able to talk to the Air Force or Navy in terms of latitude and longitude for positions.

Analysis of the Area of Operations. The commander or S-3 must define the area of operations for the contingency. This may initially be a region of the world, then a country, and finally a specific area of that country.

One of the first books to look for when researching a country is the Department of the Army Handbook series Country Studies. These hard-bound books provide a wealth of detailed information on any given country. Other sources of information on a country include the CIA book *The World Factbook* (published yearly), and the State Department's *Background Notes*. These documents should be available in your local library. Additionally, the U.S. Marine Corps Intelligence Activity has developed several pocket-sized country study books. (The address is United States Marine Corps, Marine Corps Intelligence Activity, MCIA 02A, 2033 Barnett Avenue, Quantico, VA 22134-5011.)

Enemy Order of Battle. The intelligence community has, and continues to develop, pocket-sized handbooks for soldiers. These handbooks may include information about the country, such as key language phrases, health risks, and preventive medicine techniques. If you don't have a handbook for the area and don't have access to the classified information, there are several excellent unclassified sources as well. *The Military Balance*, which is published every October, should be used to update the military information in the DA Area Handbook. Additionally, Jane's publishes several books yearly, also available on CD ROM, that identify the materiel a country has. These include *Armour and Artillery*, *Infantry Weapons*, and *Land Based Air Defense*. Jane's has also begun producing the

Sentinel, regional studies that give detailed descriptions of a country and its military capabilities. These books are available in most military libraries.

The 36th Air Intelligence Squadron, at Langley Air Force Base, Virginia, has produced a variety of recognition products, including the DIAM Recognition Guides and a catalog called the *Recognition Materials Index*. The address is 36 AIS/DOR, 23 Elm Street, Langley AFB, VA 23665-2092. This information will be helpful in developing vehicle and aircraft recognition classes for your unit. Make sure the classes cover both enemy and allied equipment.

List of References. A list of references serves several purposes, including saving time and seeing that all units are using the same information. The DIA publishes two registers that cover all intelligence documents: the *Register of Intelligence Publications (RIP) (U)*, DSC-2600-37-94, September 1994, and the *Scientific and Technical Intelligence Register (STIR) (U)*, DST-2660Z-003-93, June 1993. These classified books provide annotated bibliographies of most available intelligence information references. For contingency operations, most of the information will come from the *RIP*, which lists all of the books containing information by country. The *STIR* lists books by category, such as combat vehicles or medical information.

For unclassified sources of information, I recommend the Air University Library *Index to Military Periodicals*, which is an excellent research resource. This book is also available on CD-ROM. Additionally, your local librarian can be of great assistance in finding other materials and sources.

Information on terrorist threats can be found in the Department of State's *Pattern of Global Terrorism 1994*, April 1995, and in the JPRS report *Terrorism*. Finally, an excellent source of information on current military events is the newsletter *For Your Eyes Only*.

It may be helpful to look at the documents available for collecting the information and intelligence necessary for deployment to a specific area. For example, if your unit has a Korean con-

tingency mission, you will find several key documents available.

The Staff Weather Officer in the Republic of Korea (ROK) has produced a pamphlet on Korean light and weather data entitled *Weather and Korean Climatology*, 607 WS Pamphlet 15-5, 1 January 1995. The DEAR contains environmental hazards and diseases common in both North and South Korea. It also identifies two varieties of poisonous snakes, three poisonous insects, and two poisonous plants (poison ivy and poison sumac) in the ROK as well as the annual high and low temperatures (30 degrees and -9 degrees Celsius, respectively).

Maps for South Korea are listed in the DMA *Catalog of Maps, Charts, and Related Products*, Part 3, Topographic Products, Volume III, Asia, Australia, and the Pacific Islands All Scales. Maps are available in scales of 1:25,000, 1:50,000, and 1:250,000, and there are maps available for some cities. Additionally, Gazetteers are available for both North and South Korea.

Several new pocket-sized information handbooks are available:

- The DIA *North Korean Handbook*, PC-2600-6421-94.
- The DIA book *North Korea: The Foundations for Military Strength*, dated October 1991 (contains a good overview of the North Korean military).
- DA Pamphlet 550-81, *North*

Korea—A Country Study, dated 1994, the area handbook for North Korea.

- DA Pamphlet 550-41, *South Korea—A Country Study*, dated 1992, the area handbook for South Korea.
- DA Pamphlet 360-414, *A Pocket Guide to the Republic of Korea*, 1987.
- The Marine Corps Intelligence Activity's *South Korea Country Handbook*, MCIA-2660-KS-010-94, dated 1 May 1994.
- The U.S. Air Force's *Pacific Theater Recognition Guide*, Part 1—Aircraft, DIAM 57-25-132, 1 July 1988, identifies the aircraft in the theater.

Additionally, the Department of State *Background Notes* for North and South Korea, are dated July 1989 and April 1991, respectively; and an interactive video disk—Combat Vehicle Identification Module Part 2, Korean Equipment, PIN -710027DA, Release 7-19, October 1993—is available for conducting vehicle recognition training.

Some of the articles on North Korea listed in the *Index to Military Periodicals*, 1992, are "North Korean Infantry Battalions" (INFANTRY Magazine, September-October and November-December 1992), and "North Korean Special Purpose Forces" (*Special Warfare*, October 1992). The Department of State's *Pattern of Global Terrorism 1994* lists North Korea as one of the state-

sponsored terrorism countries. And *For Your Eyes Only* gives a day-by-day summary of what is occurring in the North Korean nuclear crisis.

A look at the daily newspaper shows that troops can be deployed to a variety of places on short notice, and units must be prepared. It is quite possible that combat support or combat service support units will be the first to go, and these units are the most dependent on higher headquarters for intelligence information.

As an S-2, you must make your intelligence requirements known to your higher headquarters and then notify your commander if these requirements are not being met. The day of alert notification is not the time to begin research, or to point fingers at higher headquarters. If you're not getting what you need, head for the nearest library. Or, since many of the references mentioned are now available on the "information superhighway," a computer and a modem may be all you need.

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Field Expedient Map Making

LIEUTENANT COLONEL MARTIN N. STANTON

One of the most annoying aspects of my battalion's operations in Somalia was the lack of adequate maps of the major cities and towns. The units were issued 1:100,000 (ex-Soviet Union)

maps, but these were useless for urban environments, and the 1:25,000 and 1:15,000 maps of Mogadishu and Kismayu, respectively, did not show enough detail. There were no maps of

other major towns, such as Afgoi, Marka, and Baidoa. This deficiency proved to be a significant command and control challenge in more than one operation.

As a result, the 2d Battalion, 87th Infantry, 10th Mountain Division, undertook a series of map-making missions in the lower Shabele Valley region, using its scout platoon. The intent of these missions was to create a reliable sketch map of each of the towns in the battalion's area of operations. This effort met with considerable success, although opportunities to use the maps were limited (soon after the battalion left, its replacement battalion was sent to Mogadishu).

The following are some suggested techniques for creating your own town maps for use by subordinate leaders:

The key tool in field expedient map making is the small lightweight GPS (global positioning system) receiver (SLGR). This device enables units to plot positions accurately to within 10 meters. The SLGR can also show the distance between points, which allows a map maker to maintain scale and proper spatial relationships between streets. With these two capabilities, any scout squad should be able to produce a reasonably accurate street map of any town.

The technique for this type of map making is fairly simple and is normally a three-day process:

Day One:

- Identify the area to be mapped; that is, the outside boundaries of your map. (Normally, this will be the edge of the built-up area, but it doesn't have to be.) Plot way points on the main roads leading into the town.

- Using the way points on the outside of town as starting references, plot all the main roads in the town. Take readings for line-of-sight between way points (this part is most important). This type of map making is a connect-the-dots drill. The map making team moves along like an inchworm: One part of the team stays where the last reading was taken and watches the other proceed until it is out of sight or reaches a major road intersection. Then the lead element of the team halts and takes a new GPS reading; the following element moves up to the new way point, and the process is repeated.

- Plot all major linear terrain

features, such as coastlines, rivers, and deep ravines.

- Once all GPS plotting is complete, the team returns to a secure area and creates a rough map of the town, showing the main roads and major linear terrain features.

Day Two:

- Using the sketch map of the town's main roads, go to the town and put in all the side streets. (This can be more tedious and time-consuming than the first day's efforts, and may require



several days in larger towns.) The technique for marking the side streets and alleys is the same as that used for the main roads.

- Return to your secure area and plot all the side streets.

Day Three:

- With your updated street map, go again to the town and plot all the major buildings—government buildings, hospitals, theaters, warehouses—and such areas as market places.

- Using your GPS, plot UTM (universal transverse mercator) grid lines on the map.

By the end of Day Three, you should have a product worthy of mass reproduction and dissemination.

Normally, the only reproduction aids available to an infantry battalion are a simple copier and some form of lap-top computer. Unless you have a real computer whiz in the unit, it's better to plot your maps by hand, using metric rulers and simple drafting tools. You will also need a flat dry working surface and a way to secure paper to it.

The size of the town you're dealing with, or the intricacies of its winding

side streets, may require using more than one sheet of copier paper. In this case, connect as many blank sheets as you need to create the master map. After the map is finished, you can break it up into its individual sheets for reproduction and dissemination. A copy of each map produced should be sent to the S-2 or G-2 at the higher headquarters for distribution.

In addition to creating maps, the GPS team can be used to improve or update existing ones. For example, the Mogadishu map had several grid squares consisting of cross-hatched streets that provided little terrain reference. The GPS teams can plot prominent buildings and other terrain features onto the existing map to provide reference points for maneuver. These plotted points can then be disseminated to all subordinate leaders.

Map making missions require the same tactical security as any other operation in a low-intensity conflict environment. The number of GPS teams involved in the plotting can vary with the size of the town and the number of GPS systems available, and each team must have dedicated security that allows it to concentrate on its tasks. A good rule-of-thumb is to plan on having a squad-sized security element for each team.

Obviously, the maps produced by our teams were not as good as maps created by professional surveyors; no elevations were plotted because of the time it would have taken, and the maps were done in black-and-white. But they were a tremendous improvement over crude or nonexistent maps.

Units that find themselves confronted with inadequate maps in future missions of this kind should be prepared to use techniques such as these to improve existing maps, or even to create their own.

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PIRs

What They Are...and Are Not

MAJOR KEVIN J. DOUGHERTY

There are so many different kinds of intelligence and information requirements that it's hard to keep them all straight—priority intelligence requirements, specific information requirements, commander's critical information requirements, information requirements, intelligence requirements, indicators. . . .

What most infantry officers would concede, however, is that there is a place somewhere in the coordinating instructions of the operations order (OPORD) for priority intelligence requirements (PIRs). Beyond that, there is little consensus on the purpose, utility, or implications of the requirement.

What we can agree on is that the seemingly endless list of unanswerable questions generated by a corps order, and dutifully passed down to each squad, is of little help to the soldier on the ground. In trying to resolve this issue, we find numerous references, but they are also contradictory, incomplete, and inconclusive.

PIRs are often misstated or mislabeled. Certainly, they are not defined in a way that is meaningful to the infantryman. I believe there are three criteria a PIR should meet:

- Someone must be specifically responsible for answering it.
- It must be collectable.
- It must be tied to a friendly action.

PIRs are too often a laundry list of questions that no one is held responsible for answering. And, according to an unscientific poll of instructors for the Infantry Officers Advanced Course, the average commander does not consider trying to answer PIRs an *implied task*. So if no one is specifically told to do it,

and no one thinks it is implied that they do it, how does it get done? If PIRs are "critical to the accomplishment of your mission," as stated in Field Manual (FM) 34-8, *Combat Commander's Handbook on Intelligence*, you'd think that, somewhere in the order, someone would be assigned the mission of answering them.

People who are not specifically tasked to answer a PIR will still know what PIRs are, understand their importance, and consider it an *implied task* to

*Somewhere in the order,
someone must be identified
as having the specified task
of answering a PIR.*

collect them if the opportunity presents itself. But I think answering a PIR must be a *specified task* for someone. It can be stated in the intelligence paragraph that contains the collection plan, in a reconnaissance and surveillance matrix, or in tasks to maneuver or combat support units.

This first requirement for a useful PIR will serve as a check for the second: It must be collectable. Thus, a commonly seen "PIR" such as, "Will the enemy use chemical agents?" really isn't very good. How is an infantry unit supposed to answer this question, short of finding the enemy commander and asking him his intentions? All a tactical unit can really do is answer a question such as, "Has the enemy used persistent chemical munitions against our main defensive area?" The unit can answer this one by putting out chemical alarms, and the information may generate some

friendly action, such as moving to alternate positions or using chemical weapons ourselves.

It may make you feel good to ask whether the enemy *will* do something, and you may, in fact, be able to find some indicators (such as the movement of chemical delivery systems forward or upgrades in protective posture); but when you get right down to it, such predictive PIRs usually cannot be collected at the tactical level.

Likewise, a unit that does not have the Chattahoochee River in its sector cannot answer the PIR, "What bridges over the Chattahoochee River are intact?" Someone else in the brigade may have the river in its sector, but you don't. Therefore, a unit cannot simply repeat PIRs from the higher headquarters order; some may apply to you, and some may not. The test is, "Can I answer the question, given my resources and limitations?"

The third requirement, that a useful PIR must be tied to a friendly action, is nothing new; FM 34-8 says the same thing. It doesn't make sense to go to the trouble of answering a PIR if no one is going to act on the information. "When has the enemy crossed Phase Line Lee?" is a good PIR if PL Lee is the decision point for launching our attack helicopters. Thus the PIRs should be traceable to the operational factors matrix on the decision support template (DST). In fact, FM 34-130, *Intelligence Preparation of the Battlefield*, calls the DST "the vital link between the commander's intelligence needs and the decisions and actions required of the commander and staff."

Other items of information are also

important, but if they do not meet these three criteria, I would suggest they are not PIRs and should be put somewhere else in the order. For example, if we are interested in those bridges over the Chattahoochee but cannot answer the PIR, we can identify who is answering it, in either the friendly forces or the intelligence paragraph. In another example, if the battalion commander wants to track the movements of his companies during an infiltration, he will make "Report crossing phase lines" a reporting requirement in the coordinating instructions.

He can do the same thing for common but ineffective so-called PIRs that are really nothing more than SALUTE report reminders. A key to identifying these are that they're usually listed as commands rather than questions. Consider a "PIR" such as "Report enemy of platoon size or larger along Infiltration Lane Blue." Does this mean I don't have to report a squad? I don't think that is the intent. A better PIR would be, "Is the enemy located in platoon strength or greater within Infiltration Lane Blue?" We can send a patrol out to answer this, so it is collectable. If the answer is no, we will use Infiltration Lane Blue; if the answer is yes, we will use an alternate lane. In this example,

the PIR is tied to a friendly action; it is not just a SALUTE report.

Indicators are definitely worth mentioning. These are pieces of the puzzle the intelligence analyst is looking for, and observations the average soldier can make. For example, a commonly seen PIR for a unit at the Joint Readiness Training Center is "Where is the enemy battalion supply point?" That might be a tough question for an infantry soldier to answer on the basis of his localized view of the world. But he can report indicators, such as an unmapped trail network with all-terrain vehicle tracks, a single-ship landing zone, a UH-1 hovering and dropping a bundle, an enemy that defends instead of breaking contact, and booby traps, mines, and obstacles around a concealed area. These might be listed as reporting requirements or indicators in the coordinating instructions. Indicators are "information," and that is what the infantryman can collect. An analyst can then process them into "intelligence." (See also "Intelligence Considerations for the JRTC Search and Attack," by Captain Richard A. Berglund, *INFANTRY*, September-October 1993, pages 7-9.)

A good PIR should be collectable, should have someone responsible for it,

and should be tied to a friendly action. If you have information you're interested in that doesn't meet these criteria, put it somewhere else in the order—in the friendly forces or intelligence paragraph (that is, a PIR of interest to you but being collected by someone else); under reporting requirements (SALUTE items, if you feel you must emphasize them, and friendly information); or under indicators (items of information that may seem unimportant by themselves but which collectively produce a picture).

You may choose to interpret PIRs differently, and there are certainly enough definitions in circulation to please almost everybody—that is, everybody except the guy on the ground. No matter how you choose to understand PIRs, I ask you to expose each PIR to this simple question, "Does having this in the OPORD help, and what are my subordinates supposed to do with it?"

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Four Ways To Increase Leadership Effectiveness

LIEUTENANT COLONEL HARRY W. CHRISTIANSEN

General George S. Patton once said, "Wars may be fought by weapons, but they are won by men." It is the human dimension of war—the integrated effort of the soldier's spirit and the leader's will—that wins battles. This philosophy is written into Field Manual 100-5, *Operations*, which states that leadership

is the most essential element of combat power.

Effective leadership is the ingredient that creates the combat-ready soldier teams that will bring mission success, both in war and in operations other than war. There are four ways you can become a more effective leader:

Exemplify Professional Ethics. Professional values and ethics are the foundation of service to the nation. They promote mutual trust, confidence, and understanding between the leaders and the led. Values—our attitudes about the worth or importance of people or ideas—are powerful. Your values, as

shown by what you say and do, set the leadership climate in which your unit operates.

Effective leaders adopt and adhere to high standards of ethical behavior. You do this by internalizing and practicing the Army's professional ethos of duty, integrity, and selfless service. You instill these values in your soldiers by your everyday example.

Duty is a legal or moral obligation to do what is right, despite the difficulty or danger, and without being told to do so. It is taking the initiative and anticipating requirements. Duty builds a common sense of purpose and unity for soldiers as they encounter difficult stressful situations. Duty means being responsible for taking action to ensure mission success.

Integrity is being honest and avoiding deception. You show integrity by your behavior and by promoting open and honest communications. Integrity builds trust and confidence between the leader and the led. It is doing the hard right instead of the easy wrong.

Selfless service is putting the nation's welfare and mission accomplishment ahead of your personal needs. You show selfless service by undergoing hardship, danger, and discomfort along with your soldiers. Selfless service builds soldier team commitment.

Effective leaders establish an ethical climate in which their soldiers can succeed. If you take shortcuts, you teach your soldiers that shortcuts are okay. If you do what is right, your soldiers will also do what is right.

Communicate with Soldiers. Communication is the link between the leader and the led. Effective communication takes place when you understand precisely what soldiers are telling you and when soldiers understand exactly what you are telling them.

Try listening to your soldiers more than you talk to them. Listen not only to the words but to the tone of voice, inflection, pauses, and speed—they all communicate something. Notice the soldiers' gestures or nonverbal behavior, and watch to see if the verbal messages match the nonverbal. If you're observant, you will hear and under-

stand the feelings behind the words; sometimes the feelings are the most important part of the message.

Effective leaders communicate in different ways, depending upon the situation and audience. The method must fit the situation and ensure that the soldiers receive and interpret the message as you intended it.

The most powerful communication is your behavior. You communicate standards by your example and by the soldier behavior that you ignore, reward, or punish. Talk is cheap; behavior is believable.

Preserving the dignity of the soldier, in any situation, will go a long way in helping him realize his full potential. Effective leaders communicate in a way that demonstrates respect for each soldier—treating all with dignity. This manner of communication fosters soldiers' pride and commitment.

Build Cohesive Teams. Warfighting is a team activity. Expertise in combat strategies and tactical competence cannot ensure victory unless leaders and soldiers work together toward a common goal. A close-knit team of soldiers, outnumbered and overpowered, can overcome a larger force and win, and it is unit cohesion that builds close-knit teams. Cohesion is the bonding together of soldiers and their leaders in such a way as to develop and sustain commitment to the unit and resolve to accomplish the mission.

Effective leaders bond the interpersonal relationships within their team—both horizontally and vertically. Horizontal bonding occurs as the team members share experiences and become interdependent as they accomplish missions. Vertical bonding, the more difficult process, occurs when soldiers become confident in their leader's technical skills and believe that the leader truly respects and cares for them.

Tell soldiers, by words and deeds, that you care for them. In addition, tell them how well they are performing as a team. Get personally involved with a new soldier's reception, integration, and acceptance as a team member. Conduct stressful, demanding training that requires the team to work together

toward success. Emphasize and recognize contributions of the team rather than only of individuals.

One word of caution. Competition is a motivational tool within the Army. Although teams may compete successfully against other teams, it does not follow that team *members* will fight best if they are in competition with one another. Have them compete against a common standard, not against each other. Competing against a standard allows everyone—the team as a whole—to win. When individuals compete against each other, there is only one winner and often many losers.

Soldiers who belong to a high-performing team will do everything in their power to help their team succeed. An effective leader creates a strong unit identity—a feeling that “we're all in this together.”

Provide Purpose and Direction. Effective leaders establish goals and objectives to guide the unit team into the future. Goal setting is a three-step process:

The first step is to create a vision. Leaders must know where they want to go—where they want to take the team. The first step in creating the vision is to assess the team's present state. Get feedback from the soldiers, and review SOPs and reports to determine the team's present state. Next, as you absorb this information, form a mental or word picture of what the team currently looks like and where you want the team to go. The vision can be a statement, a graphic, or any combination of these.

The second step is to establish goals. Goals are general statements that serve to focus the vision into a working framework. Setting goals is a group process done with subordinate leaders. Use words, pictures, or examples and be as explicit as possible. Ask questions to ensure that your goals are clear. Get subordinate leaders involved in charting the team's future; they are the ones most likely to achieve the goals.

The third step is to develop objectives for each goal. State the objectives in precise, measurable terms. In their simplest form, objectives state *who*

does *what* by *when*. Make them be realistic and attainable. Here, too, involve your subordinate leaders in this process.

Once you begin to implement the goals and objectives, conduct periodic follow-ups to check progress. Make mid-course adjustments in the team's direction on the basis of changing priorities. Conduct routine, scheduled follow-ups as a way to continue building your team.

Soldiers can do their best only when they know where the team is going and

what their leader expects. Effective leaders provide direction and link the soldiers' work effort toward achieving team goals and objectives.

To improve soldier performance, effective leaders capitalize on interpersonal relationships with their soldiers. Effective leaders "talk and walk" the professional Army ethos. Effective leaders have open and honest two-way communication with their soldiers. Effective leaders build soldier-team commitment that is focused on mission accomplishment. Effective leaders pro-

vide a road map that the team members can follow until they reach success.

It is a leader's moral responsibility to be as effective as possible. Combat is the ultimate test of leadership—the outcome may mean the difference between life and death for your soldiers. Effective leadership makes that difference.

Lieutenant Colonel Harry W. Christiansen has commanded units at company-grade level and is a former organizational effectiveness staff officer. He is now a leadership development officer on the Army Staff.

FIFTY YEARS AGO IN WORLD WAR II **September-October 1945**

The end of organized Japanese resistance in the autumn of 1945 finally brought World War II to an end. One by one, Japanese garrisons on the Pacific islands and the Asian mainland had surrendered to American and Allied commanders, ending a reign of terror whose extent would only be revealed in the years that followed. With the end of hostilities, the world could now set about the task of rebuilding cities and societies torn apart in five years of conflict.

These and other highlights of the final year of the war are drawn from Bud Hanning's monumental chronology, A Portrait of the Stars and Stripes, Volume II, still available for \$50.00 from Seniram Publishing, Inc., P.O. Box 432, Glenside, PA 19038.

- 1 September** *Allied troops now control much of the strategic terrain along the coast of Tokyo Bay.*
- 2 September** *The official and unconditional surrender of Japan occurs on the decks of the USS Missouri, in Tokyo Bay.*
- 4 September** *Brigadier General Lawson H.M. Sanderson, commanding officer of the 4th Marine Aircraft Wing, accepts the surrender of all Japanese forces on Wake Island. They had held the island since 23 December 1941.*
- 11 September** *Japanese Lieutenant Commander Hideyuki Takeda surrenders the surviving contingent of Japanese troops on Guam.*
- 24 September** *General Walter Krueger, U.S. Sixth Army commander, assumes command of all U.S. forces in Japan.*
- 2 October** *The London Conference ends with the Allies unable to agree on treaties for the Axis Powers.*
- 3 October** *In one of the first signs of things to come, a company-sized Communist force raids the Hsin Ho ammunition dump in China, stealing several cases of ammunition, most of which is later recovered by the 1st Battalion, 5th Marines.*
- 6 October** *Major General Keller E. Rockey accepts the surrender of 50,000 Japanese troops in Tientsin-Tangku, China.*
- 10 October** *Nearly 50,000 Japanese troops surrender to the 11th War Area Commander in Peiping.*
- 25 October** *The Japanese Tsingtao garrison at Shantung is officially surrendered to Major General L.C. Shepherd, U.S.M.C., and Lieutenant General Chen Paotsang of the Central Chinese Government.*



Route Clearance Operations

CAPTAIN JOHN K. LEIGHOW



Route clearance operations are in need of major improvement throughout the Army. In conflicts ever since World War II, there has been a steady increase in U.S. casualties from mine warfare. One reason for this increase is that the development of mine technology surged while the development of countermine operations remained mired in technology 30 to 50 years old. In addition to the lack of technology, there is also a lack of definitive doctrinal guidance on route clearance operations, along with a corresponding lack of training in such operations.

At the Joint Readiness Training Center (JRTC), mine warfare is an integrated part of opposing force (OPFOR) tactics, much of it along friendly lines of communication (LOCs). Units must recognize that route clearance requires combined arms operations. Units training at the JRTC routinely attempt clearance operations without proper planning, task organizing, rehearsing, and battle tracking. The route clearance technique most commonly observed is the "Thunder Run": A unit roams the roads at 15 miles an hour or more, hoping to see a minefield, and usually detects one through the explosion of its lead vehicle.

Because countermine technology and doctrine remain limited, we as leaders of a fighting force must develop ways to compensate for these shortcomings and retain our mobility. Fortunately, there are options that will help ensure successful and safe passage on our lines of communication.

Predictive Intelligence

To examine movement along LOCs, we must first consider the typical threats. The primary threats to battlefield movement are ambushes and mines. Small arms fire is the number one killer on the JRTC battlefield. Several teams of three to five men with small arms can effectively neutralize a brigade's convoy operations using well-placed ambushes. These ambushes can occur on almost any portion of a specified route, but they typically center in areas of limited trafficability and generally require effective fields of fire as well as cover and concealment.

Mines are the number two killer; they are the poor man's weapon of choice and the eternal sentry. Mines are devastatingly effective because they can be located virtually anywhere and because targeted units often do not understand the capabilities of mines or see indicators of their presence.

Today's mines contain blast-resistant fuses or they use magnetic or seismic signatures to initiate a blast. This technology is vastly superior to the first-generation pressure fuses that are common in the U.S. inventory. Even worse is the prospect of the availability of these mines on the world market. Mines ranging from the almost primitive (wooden boxes) to the highly sophisticated (plastic and blast resistant with a magnetic time delay fuse) are cheap and available to any country that wants them.

A favorite technique of the JRTC's OPFOR is to "reseed" a minefield along a main supply route (MSR) once a vehicle or a sweep team has destroyed its mines. Although this process takes the OPFOR no more than 30 minutes, it has a profound effect upon the brigade. As the force loses more equipment and personnel to these reseeded minefields, the brigade and its battalion task forces divert more combat power to convoy escort. Commanders and staffs become frustrated, and the brigade loses the initiative. With these two typical threats in mind, we can consider a more effective approach to route clearance operations.

Incorporating the processes of the intelligence preparation of the battlefield (IPB) and the analysis of METTT (mission, enemy, terrain, troops, and time) into route clearance operations provides a way to predict what an enemy will do to disrupt a unit's MSRs. As experience has shown, a unit that fails to conduct route clearance operations during the initial stages of an operation will lose its flexibility and initiative during subsequent operations.

The IPB and the engineer battlefield assessment (EBA) offer the ideal methods of establishing a minefield/ambush situation template. Once the S-2 and the engineer identify the most probable threat sites, the S-2 should designate these sites named areas of interest (NAIs) to focus the reconnaissance effort. Engineers trained to conduct enemy obstacle reconnaissance can work along with scouts and infantry to confirm the presence or absence of ambushes and minefields.

Minefield indicators (see box) offer a visible signature that helps a unit confirm or deny minefield locations; they also serve as a starting point for finding the enemy or his cache sites. Typically on the JRTC battlefield, the terrain permits the enemy to cache mines 50 to 500 meters from any given minefield location.

Planning Considerations

Planning and conducting route clearance during the initial phase of combat operations ensures the survival of the forces that follow. According to Field Manual (FM) 20-32, *Mine/Countermine Operations*, minefield clearance is conducted in a relatively safe environment and is "usually performed after the breaching operation by follow-on engineer forces, or any time in a friendly area of operations where an obstacle is a hazard or hinders movement."

Despite the implications of the name, route clearance operations are similar to breaching operations and should include planning and coordination for all aspects of the familiar breaching fundamentals of suppress, obscure, secure, reduce. Covert breaches require the planning of these fundamentals but not necessarily their execution, unless the situation demands it.

Task organizing for route clearance is also similar to breaching operations in that the assault element is the security element and the breach element is the sweep element, and the support element remains the same. FM 90-13-1, *Combined Arms Obstacle Breaching Operations*, contains details on planning breaching operations and provides good

MINEFIELD INDICATORS

- Damaged vehicles or dead animals.
- Avoidance of an area by the local population.
- Signs of digging or concrete removal.
- Disturbances in the road such as holes or grooves.
- Boxes or parcels along the road or shoulder.
- Parked vehicles, bicycles without operators.
- Wires on the road surface or extending onto the shoulders.
- Evidence of vegetation disturbance along the shoulders.
- Evidence of mine-peculiar supplies—wrenches, shipping plugs, wrapping paper, safety collars from fuses.
- Signs posted that covertly alert the local populace to the presence of mines.
- Evidence of disturbances in previous tire tracks.

insights that can be applied to route clearance operations.

The significant difference between breaching and clearing operations is that breaching usually occurs during an attack, under enemy fire, to project combat power to the far side of an obstacle, while route clearance focuses on opening LOCs to ensure the safe passage of combat support organizations within an area of operation.

Most units conduct route clearance operations without much planning or coordination with adjacent units, fire support, or security elements. Planning route clearance, as with breaching, requires extensive coordination and the use of all available assets. Some planning actions for a combined arms route clearance, by battlefield operating system, are shown in the accompanying box.

Route Clearance Methods

Currently, only one route clearance method is either conducted by units or discussed in doctrine, one that could be called a **linear route clearance**. Two other route clearance options a force can use (not directly mentioned in doctrine) are the **combat clearance method** and the **combination clearance method**.

The linear route clearance method consists of sweep and security teams beginning their route clearance from Point A and completing it at Point B (Figure 1). This method provides the best assurance of covering a route. A route clearance mission that does not specify the location of a start or end point causes confusion between those who plan the

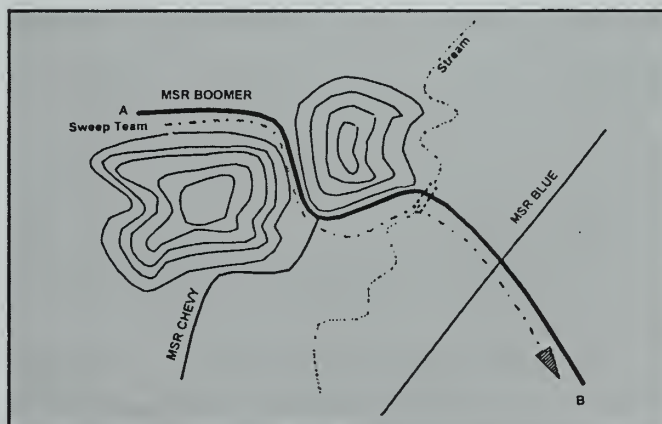


Figure 1. Linear Route Clearance

mission and those who must execute it. Although this is an effective and popular method of clearing a route, it is not the most secure in a threatening environment.

While route clearance operations focus on a specific route, combat clearance operations (discussed in FM 20-32, chapter 13) focus on one or more areas along a route. Since the IPB and EBA of a specified route can identify high-threat areas for likely mine and ambush locations, these areas become NAIs and objectives for combat clearance missions.

This method (Figure 2) divides a route into sections accor-

ding to the number of suspected high-threat areas. The sweep force, consisting of a mixture of maneuver and engineer forces, secures and sweeps these areas, and the route is thus secured. Combat forces can patrol the route from these objectives to see that it is secure and can sweep the surrounding area for caches if a minefield is detected. The commander takes moderate risk in assuming that his S-2 has identified all high-threat areas and the area is clear of mines. This type of route clearance is ideal for light forces, since it provides them the maximum use of surprise and concealment instead of the constant threat involved in moving down a linear

PLANNING ACTIONS FOR A COMBINED ARMS ROUTE CLEARANCE

INTELLIGENCE

- Focus the IPB on routes to identify high threat areas such as chokepoints, bridges, culverts, tunnels, and intersections. Identify key terrain, direct observation, and ambush sites. Identify most probable locations as NAIs for reconnaissance effort.
- At battalion level, maintain a minefield incident map and chart to make pattern analysis easier. Compare minefield incidents to the situation template, and adjust accordingly.
- Coordinate overflight by unmanned aerial vehicle and attack helicopter teams to provide daily intelligence updates. Film the route using aviation assets, if possible.
- Provide intelligence updates to company and convoy team leaders before departure.
- Establish liaison between host nation, nongovernmental organizations, and special operation forces.

MANEUVER

- Clear and secure flanks (at least 100 meters in forested areas) and the far side of suspected and known obstacles before marking and clearing efforts begin. Identify and clear potential sniper positions before clearing obstacles.
- Provide scout weapons teams for route overflight and security.
- Provide subsequent security for the cleared route.
- Provide aviation assets that are under the operational control of the route clearance commander.

FIRE SUPPORT

- At battalion level, position mortars to ensure continuous coverage of the operation.
- Prepare to cue the AN/TPQ-36 weapons locating radar for counterbattery fire on enemy indirect fire systems.
- Prepare to fire nonlethal fires initially and then suppressive fires along the route on reported and suspected obstacle locations and sniper positions. Prepare fires within the tactical rules of engagement.
- Ensure that the route clearance team has a fire support coordinator.
- Ensure that priority targets shift along with company-team movement on the MSR.
- Plan smoke on each target.
- Ensure that territorial responsibility is understood.
- Establish a plan for the clearance of fires.

MOBILITY/SURVIVABILITY

- Conduct an engineer battle assessment (EBA) in conjunction with IPB of routes.
- Provide clearing and sweep teams for the route as prescribed in FM 20-32, chapter 10.
- Provide detailed obstacle intelligence on minefields that includes the description of mines, the composition of the obstacle, and enemy actions or techniques used during obstacle emplacement.
- Conduct route reconnaissance to update map information.
- Conduct deliberate minesweep operations upon visual identification of an obstacle. Continue the minesweep 200 meters beyond the known obstacle location.

- Conduct a route reconnaissance to update map information.
- Ensure that all mines and obstacles are reported, marked, and cleared to allow unimpeded movement.
- Standardize all lane marking materials and techniques.

COMBAT SERVICE SUPPORT

- Put one person in charge of the planning, specifically for support of the combined arms route clearance mission.
- Plan for both air and ground evacuation of casualties (CASEVAC).
- Provide military police (preferably with explosive-sniffing military working dogs) to help in route clearance and in security for convoys during and after clearing operations.
- Provide a medical team with one or two front line ambulances to accompany the route clearance team.
- Plan for resupply during movement.
- Consider constructing static security points along routes.
- Consider such force protection issues as providing flak vests and hardening vehicles with sandbags if possible.
- Plan for recovery assets during movement.
- Designate a movement control element for follow-on forces.

COMMAND AND CONTROL

- Plan centralized (brigade level) or decentralized (battalion task force level) route clearance operations according to METT-T.
- Designate an individual to be in charge of the entire operation with sufficient resources to accomplish the mission (communications, fire support, maneuver, and CASEVAC).
- Provide the responsible individual with intelligence on his route and area of responsibility, planning time, early task organization, and clear information on the extent of his area of operations or sector responsibility.
- Designate a controlling, coordinating, and supporting headquarters for the route movement.
- Ensure that the tasked unit has a clear mission, intent, and end state. For example, Will the unit clear the road width only, clear the entire route width including the shoulders, or clear, maintain, and secure the route?
- Determine routes with definable start and end points, and fix clearance responsibility between brigade and battalion level assets.
- Establish clearly identifiable checkpoints along routes to control traffic and monitor progress of route clearance.
- Coordinate with adjacent units as necessary. If the operation is conducted from brigade level, coordinate additional support forces with units that own the surrounding terrain.
- Track progress and integrate it into maneuver/combined arms support plan.
- Ensure that ground commanders have communications with indirect fire systems, scout weapon teams, higher headquarters, and adjacent units.
- Coordinate with host nation and nongovernmental organizations.
- Designate a reserve that is at least platoon size and either mechanized or air assault capable.

danger area. This also focuses the task force on opening and securing a route for follow-on forces and moving into the countryside to find the enemy.

The third method, combination clearance (Figure 3) combines the complete route clearance capabilities of the linear method with the security and surprise elements of the combat clearance method. This is a two-phased, force-intensive operation that may require a battalion-size effort, depending upon the length of the route.

First, high-threat areas identified through the IPB and EBA are targeted as NAIs or objectives, secured, and cleared of any obstacles and enemy forces. Then the sweep team moves down the road and clears any obstacles that were missed or not identified during the planning process. The main advantage of this method is that the task force

commander immediately secures his main supply routes and can push out to find the enemy with some degree of confidence that follow-on forces will be much safer.

Route Clearance Techniques

Current doctrine prescribes two types of minesweep techniques—hasty and deliberate. These techniques, which are only generally described in doctrine, should be the conceptual backbone of any mine clearance operation.

The hasty technique relies upon *speed* of execution while the deliberate relies upon *thoroughness* of execution. A hasty sweep over a six-kilometer stretch of road takes one to two hours (three to five kilometers per hour), while a deliberate sweep takes two to six hours (one to three kilometers per hour). Speed correlates inversely with thoroughness when

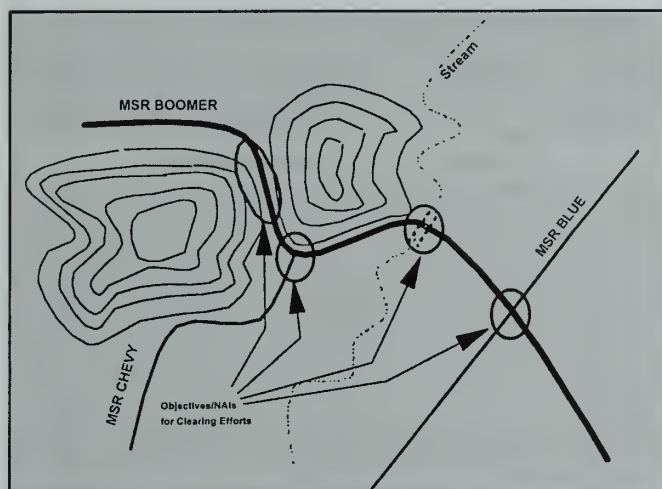


Figure 2. Combat Route Clearance

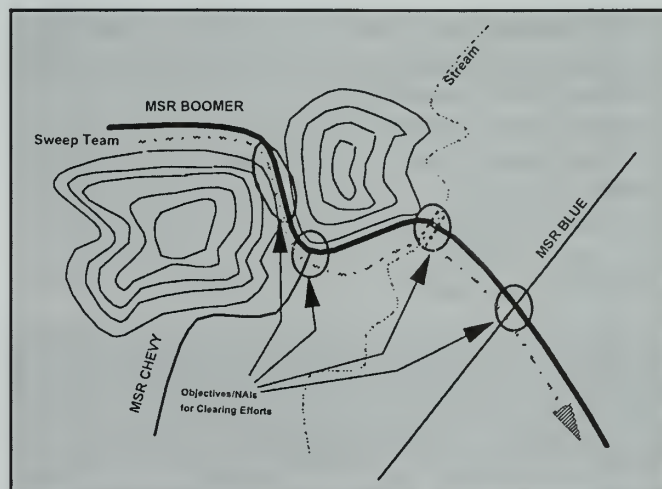


Figure 3. Combination Route Clearance

Figure 4. Minesweep Techniques Matrix

	METT-T	RISK	RATE	TASK ORGANIZATION	DETECTION METHODS	ROUTE AREAS	REMARKS
LEVEL 1	<ul style="list-style-type: none"> - Troops Limited - Time is Critical - Limited High Threat Areas - Rollers Available 	High / Moderate	5 + km/hr	Sweep Element: Engr Sqd Sec/Spt Element: Maneuver Plt (+)	1. Visual 2. Mechanical 3. Electronic	Road width Only	<ul style="list-style-type: none"> - Conducted mounted or dismounted. - Must have rollers or equivalent - Uses In-Stride Breach methodology
LEVEL 2	<ul style="list-style-type: none"> - Same as Above except Time is important, but requires a greater use of Caution. 	Moderate	3-5 km/hr	Sweep Element: Engr Sqd / Plt Sec/Spt Element: Maneuver Plt (+)	1. Visual 2. Mechanical 3. Electronic (High Threat Areas)	Road width Culverts Bridges Intersections Chokepoints	<ul style="list-style-type: none"> - Focus electronic measures on "high threat areas" (i.e. intersections, chokepoints, etc.). - Uses In-Stride Breach methodology
LEVEL 3	<ul style="list-style-type: none"> - Thoroughness outweighs time requirement. - Troops Available - Rollers may not be available 	Low	3 km/hr	Sweep Element: Engr Plt Sec/Spt Element: Maneuver Co	1. Visual 2. Mechanical 3. Electronic (High Threat Areas)	Road width Shoulders Ditches Culverts Bridges Bypasses	<ul style="list-style-type: none"> - Optional. Route Racon Report is submitted. - Sweep/Security Element clears 100m off edge if road for off-route and CMD detonated mines. - Transition to Deliberate Breach methodology.
LEVEL 4	<ul style="list-style-type: none"> - Time is Available. - Troops Available - Rollers may not be available 	Low / None	1-3 km/hr	Sweep Element: Engr Plt Sec/Spt Element: Maneuver Co	1. Electronic 2. Visual 3. Mechanical	Same as Level 3	<ul style="list-style-type: none"> - Same as Above. - Conducted Dismounted

conducting minesweep operations, and significant differences implied by each technique, such as risk and thoroughness, have not received enough elaboration in doctrine. As a consequence, units fall short in planning and executing route clearance operations.

Conducting route sweep operations in four distinct levels, for instance, would give commanders and sweeping units better options in weighing risks and clearance efforts against the desired results (Figure 4).

The proposed four levels of sweep are essentially an expansion of current doctrine: Levels one and two are modifications of a hasty minesweep while levels three and four are modifications of a deliberate minesweep. The primary differences are in the amount of operational control retained by the headquarters element and in the information communicated to the sweep element as well as the task force.

These techniques are used when conducting a linear route clearance or a combat route clearance. These sweep efforts are categorized by six criteria:

- METTT analysis.
- Risk to traffic during and after clearance operations.
- Rate of sweep.
- Task organization.
- Priority of detection method.
- Route areas checked.

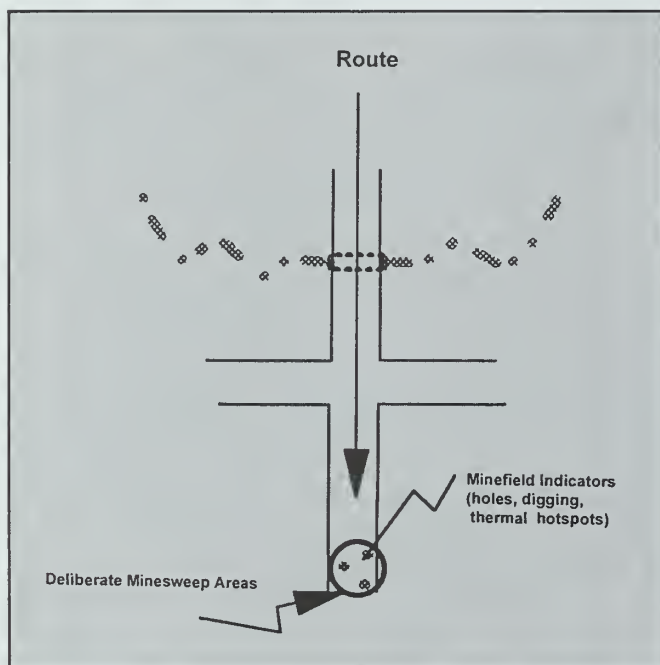


Figure 5. Level One Route Sweep

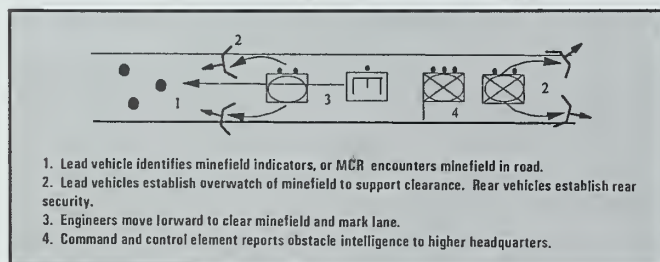


Figure 6. Level One Sweep

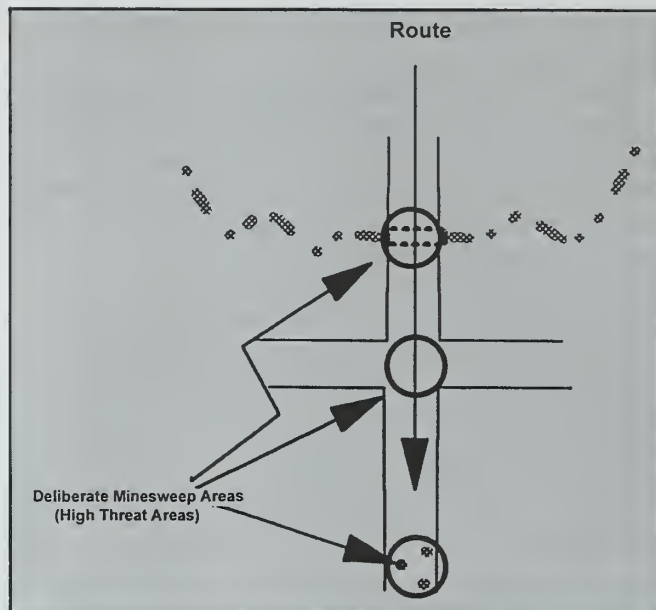


Figure 7. Level Two Route Sweep

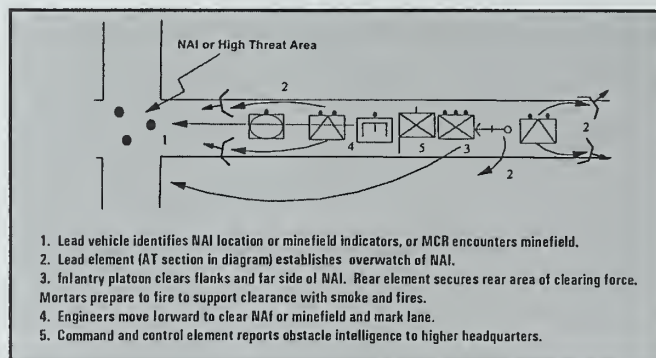


Figure 8. Level Two Sweep

These criteria provide enough information to clearly communicate the status of a route even after a sweep team has conducted its mission.

Level One. A level one sweep (Figure 5), the fastest and riskiest form of the route sweep techniques, is ideal for an armor-mechanized infantry team. It relies primarily upon visual detection for minefield identification—whether through thermal or infrared sights or with the naked eye.

Visual detection is followed by the immediate use of a mechanical detection system such as mine clearing rollers (MCRs) as a secondary system. MCRs are effective only on fairly flat surfaces, and the MCR's dog bone must be modified to avoid straddling magnetic or seismic mines.

The sweep team, consisting of an element of squad size or larger, is task organized with mine detectors, demolitions, and a vehicle-mounted mechanical detection device (see FM 20-32, chapter 10, for details). The sweep team focuses its efforts on the road width of a route, looking for minefield indicators. The security and support teams consist of a maneuver platoon to provide overwatching fire (Figure 6). The primary objective of this technique is speed, moving at roughly five to eight miles per hour. This method is much like the in-stride breach method employed when encountering

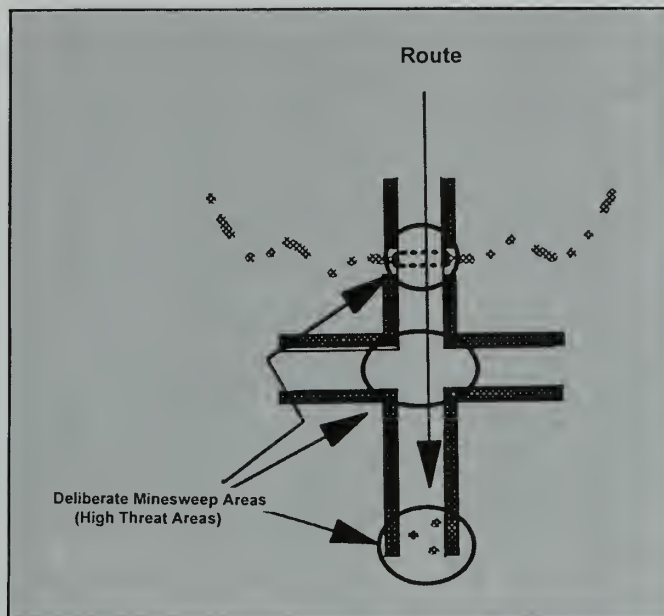


Figure 9. Level Three Route Sweep

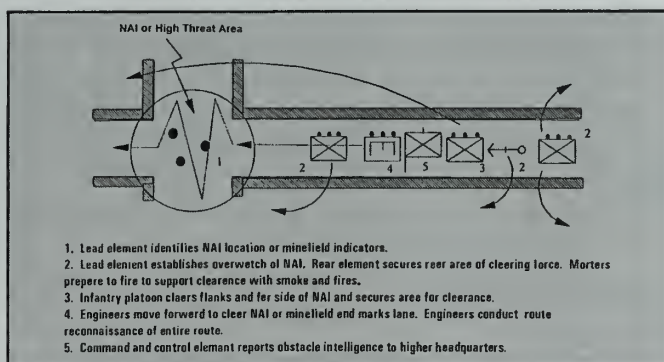


Figure 10. Level Three Sweep

minefields. The sweep team focuses upon identifying immediate risks to traffic, neutralizing those risks, and continuing with the mission.

A light force, which may not have an MCR system, can conduct the same sweep with an improvised roller system for a two-and-one-half-ton or five-ton truck. During Operation DESERT STORM, the 27th Engineer Battalion fabricated such a device to proof lanes after a mine clearing line charge (MICLIC). This device (not the truck or driver) was considered sacrificial, because it could be destroyed by a single antitank mine. Another technique is a sandbagged two-and-one-half-ton truck moving backward, but it should be used only as a last resort. Because of the high risk of encountering a minefield, the use of rollers or the equivalent is absolutely imperative. Again, however, mine clearing rollers are only a means of detecting a minefield, not of breaching it. A mine rake or plow is not a satisfactory substitute because of the damage it causes to road surfaces.

Level Two. A level two sweep (Figure 7) is similar to a level one except that it uses electronic measures, such as mine detectors, as the primary detection method at high-threat areas. Although the main focus of a level two sweep is still speed, it uses more caution and forces a unit to update its

IPB considerations of the route before the mission begins.

This level of operation employs a company team (minus) for security and command and control (Figure 8). Dismounted infantrymen clear and secure the flanks and the far side of an identified minefield or NAI while an engineer squad clears the road area.

Level Three. A level three sweep (Figure 9) is more in-depth than a level two and takes more time to complete. The sweep team can be either dismounted or mounted, so long as the soldiers examine the entire width of the route, including shoulders and ditches. This ensures that follow-on forces are protected in case they need to pull off to the side of the road.

The security and support element (Figure 10) can also move dismounted or mounted to provide the rapid response and security that the unit requires. Moving dismounted provides greater security but obviously takes longer. As an alternative, the sweep team could provide a route reconnaissance to report the status of the road and to update map information. This report would reflect areas along a route that do not correspond to current maps and further identify high-threat areas along the route. Although this is slower than the previous levels, the route is safer and staffs gain information from the reconnaissance report that will be valuable during future operations.

Level Four. A level four sweep (Figure 11), the most time-

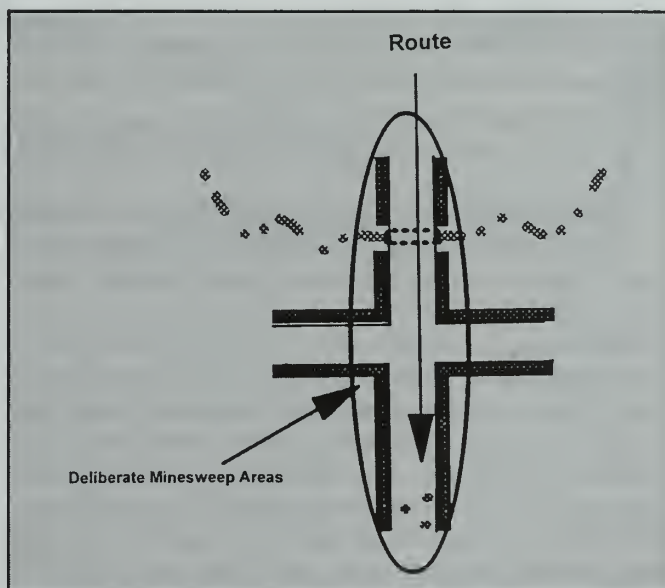


Figure 11. Level Four Route Sweep

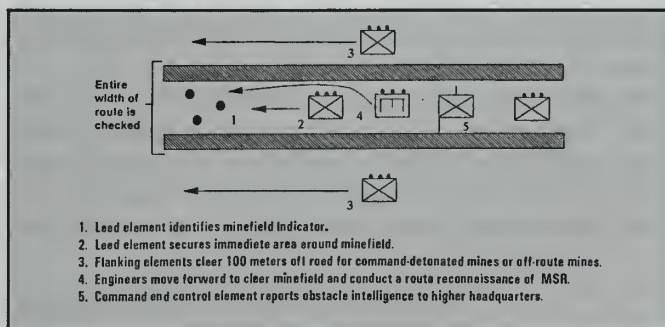


Figure 12. Level Four Sweep

consuming of the sweep operations, relies on visual and electronic means as primary and secondary detection systems. The sweep team, a platoon-size element, dismounts to focus its attention on the entire length of the route. The security element, a company-size force, clears and secures at least 100 meters in forested terrain on the flanks and 100 meters in front of the sweep element (Figure 12). This not only allows the sweep element to limit its focus to the route but also clears the area of off-route and command-detonated mines. Mechanical detection provides a third means but only as a way of proofing the route after the sweep team has passed through the area. This method is slow and tedious and should be used only when factors other than time require the added caution.

Battle Tracking

Information and its dissemination are key to battlefield management. A common deficiency in unit execution at the JRTC is a failure to report and battle track minefields and route clearance operations throughout the area of opera-

The proposed four levels of sweep are essentially an expansion of current doctrine: Levels one and two are modifications of a hasty minesweep while levels three and four are modifications of a deliberate minesweep.

tions. Units that encounter minefields fail to provide adequate information on them, if they report any information at all.

A unit that initially encounters a minefield should follow a three-step drill: secure, mark, and report. The unit must try to secure the area, if possible, before any movement. Marking should be standardized and easily seen by drivers both day and night.

A successful technique one unit used to track enemy minefields consisted of preparing a minefield chart and overlay depicting both enemy and friendly mines and obstacles, and prominently posting it in the tactical operations center (TOC) for all to see. This information included known and suspected enemy minefield locations, types of mines, marking method, time cleared, and remarks. The S-2 constantly updated the chart as information was reported. Additional information to track might be the "as of" time the chart was last updated, an obstacle number, and a list of who received the information.

A similar but separate method should be used to track route clearance status. This information should be tracked in both the TOC and the combat trains command post (CP) and pushed out to subordinate units, especially combat service support units. At brigade level, the engineer, along with

the S-2 and S-3, is the proponent for tracking this information. At battalion level, the S-2 is the proponent because of a lack of available engineer personnel in the battalion TOC.

The engineer at brigade level would analyze the information and provide comments to the S-2 and S-3 on the following:

- Man-hours used to emplace the minefield.
- Weight and capabilities of the mines.
- Estimated time and assets required to clear the minefields.

The S-2 should analyze the source of the maps, how they are passed to the TOC and the trains CP, how the enemy knows when to reseed a minefield, and where the enemy might cache his mines.

The S-3 at either level is responsible for disseminating this information to every unit that uses the road networks throughout the area of operations. He should also look at the following:

- Moving air defense artillery assets to cover likely aerial resupply drop-off points.
- Tasking units to maintain surveillance on enemy minefields.
- Establishing an ambush around the minefield.
- Orienting the Q-36 radar on the location of the minefield.
- Sending in a ground force to clear the area or locate the enemy and trail him to his cache site.
- Controlling movements on routes and notifying units when the area was last cleared.

Essentially, this process brings us back to updating the predictive intelligence estimates, and the whole process begins again.

Experience at the JRTC has shown that the planning and execution of route clearance operations need a great deal of improvement. The rotational units often lose the initiative because they have not conducted enough combined arms route clearance training at their home stations. When units do conduct a route clearance, they go straight down the road, whether a sweep team is on hand or not.

And until countermine technology catches up, execution must be proficient enough to make up the difference. Even when technology improves, well-trained units will continue to be the foundation of U.S. Army operations as we enter the next century.

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Preparing a Battalion for Combat:

Maneuver Live-Fire Training

Lieutenant Colonel William C. David

EDITOR'S NOTE: This article is the third in a series of four. The author commanded the 2d Battalion, 14th Infantry, 10th Mountain Division (Light Infantry), in Somalia in late-1993, and wrote the series at the request of the division commander.

The first article in the series, on physical fitness and mental toughness, appeared in the May-June 1995 issue of INFANTRY, and the second, on marksmanship, in the July-August issue. The remaining article, on leadership lessons learned, will appear in the November-December issue.

High performance in the core areas of physical fitness and mental toughness, along with marksmanship, did more than anything else to give our soldiers the skill and will to win in combat. But individual skills and will alone are not enough. Battles are won or lost by units.

There is no substitute for realistic maneuver live-fire exercises to prepare soldiers and units for combat. Light infantry units must be able to integrate all organic and supporting fires with maneuver to kill the enemy at the point of attack

and accomplish the mission while sustaining the fewest possible casualties. This is the collective core performance area that is the essence of light infantry operations. The best instrument the commander has for this training is a maneuver live-fire exercise.

Beating an aggressive, organized enemy who is trying to kill you is no simple task. It requires a multiechelon choreography of incredible complexity. Squads and platoons play the lead roles, and a lot of things have to come together quickly at many levels.

Leaders have to figure out where the enemy is and what he's trying to do. They need the mental agility to determine whether existing plans will work or will have to be modified. Orders and fire control measures have to be clearly communicated and understood by all concerned. Battle drills must be executed precisely. Each moving piece requires close supervision; higher headquarters and supporting units must be informed every step of the way. And all this takes place amid incoming fire, deafening noise, casualties, confusion, and fear.

As an institution, the Army fully acknowledges the value

of live-fire training. Soldiers do too; they sincerely want to practice in peacetime what they will be required to execute in combat. They will gladly do whatever it takes to make this happen. It's the type of training they joined the Army to do. They crave live-fire exercises; it gets their adrenaline pumping and becomes addictive. The more they get, the better they get, the more confident they become, and the more they want.

While it is impossible for units to completely replicate the conditions of combat in training, they can come close. When

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soldiers experience a realistic live-fire exercise, something wonderful happens. The awesome firepower of a light infantry platoon in the attack, supported by indirect fires and attack helicopters, makes soldiers believe they are part of a destructive machine. When these live fires are stepped up to company level, the effect can be overpowering. The air reverberates and the ground shakes; every sight, sound, and smell tells the soldier it is the enemy who is in big trouble.

Maneuver live-fire exercises provide units with the best opportunity to scrimmage before game day. Simple live fires are the best vehicle with which to practice the Army's doctrinal playbook—squad and platoon battle drills. More complex live fires develop the situational awareness that leaders must have to call the correct audible signals. Constant repetition in training develops at all levels the confidence that leads to quick responses to situational changes with commonly understood variations of standard plays.

Despite widespread appreciation for the value of live-fire training, units conduct it with different levels of frequency and intensity. Clearly, there are risks involved. No one wants a soldier to get hurt. A lot of planning is required. Soldiers need to be at a high level of discipline and training. But if the leaders are committed, a battalion can safely do realistic live-fire exercises and do them to great advantage.

Before assuming command of the 2d Battalion, 14th Infantry, I believed that supercharged infantry units built their collective training around a centerpiece of robust maneuver live-fire exercises. This belief developed while I was serving under a battalion commander who was committed to live-fire training. In my opinion, that battalion stood head and shoulders above others, and realistic live-fire exercises in training were the principal reason. This early experience convinced me that getting an extra ten percent in this core performance area could make my battalion a great one as well.

Conducting realistic maneuver live fires is a major challenge of battalion command. They require the commander's keen personal attention and persistence every step of the way. Delegating this task to subordinates with less experience probably will not get the job done. But if the

battalion commander truly believes in their value, is genuinely committed to doing them, and focused on his role as the primary collective trainer in the battalion, it is a bill he doesn't mind paying.

Guidance

As an institution, the Army recognizes the value and the importance of live-fire training. An abundance of doctrinal reference material is already in existence to support and assist unit efforts. One of the best single source documents available has been published by the Joint Readiness Training Center's live-fire division. This outstanding manual is full of detailed, yet simple "how to" instructions to help commanders improve the realism of their live-fire training.

Because live fire is merely a condition of training, commanders should not deviate from the guidance outlined in Field Manual 25-101, Battle Focused Training, concerning the assessment and evaluation of this training. Mission training plans (MTPs) contain excellent models to use in developing live-fire scenarios, along with appropriate training and evaluation outlines (TEOs) for all critical tasks and sub-tasks.

The Army's commitment to live-fire training can also be found in every divisional training regulation. Typically, these regulations outline recommended live-fire sustainment training. As an example, recommended sustainment training for infantry units at battalion level and below in the 10th Mountain Division is as follows:

Battalion with combat support and combat service support slice: One combined arms live-fire exercise (CALFEX) every 18 months.

Company: One CALFEX, one fire control exercise (FCX), and one live-fire exercise (LFX) per year.

Platoon: Four LFXs per year.

Squad: Four LFXs per year.

This broad guidance gives subordinate commanders all the flexibility they need to tailor their live-fire training scenarios and tasks to the areas that have been assessed as needing the most practice. Given the amount of discretionary training time a battalion has in a year, these sustainment training frequencies lead commanders toward internal

Simple live fires are the best way to practice the Army's doctrinal playbook—squad and platoon battle drills. More complex live fires develop the situational awareness leaders must have to call the correct audible signals.

live-fire programs with real substance. Indeed, if commanders followed the letter of this law, live-fire exercises would become the centerpiece of their collective training.

If all the appropriate bases are covered in planning and coordination, rarely will a brigade or division commander say "No" to a live-fire exercise that makes sense. They want their battalion commanders to pursue those exercises

aggressively. But they can't do it for you, nor should they have to. This is one ball that is squarely in the battalion commander's court.

Getting the Ten-Percent Difference

Because time is such a precious commodity for every unit, commanders must be judicious in how they use the limited amounts at their discretion. Making the tough decisions concerning the way their unit will train is one area in which battalion commanders wield enormous influence.

To make each day in the field count for my battalion, I wanted to ensure that as many of the component parts as possible were training on their known weaknesses. As a result, we concentrated on situational training exercises (STXs) for most of the collective training we conducted when our time was our own. As a condition of this training, live fire was integrated at every opportunity. We executed countless maneuver live-fire STXs, at home station and in theater, from fire team through company level, both day and night.

In combat, the company team is normally the smallest tactical formation that is given a mission involving the tasks of attack or defend. Platoons often conduct independent ambushes or reconnaissance operations, and squads conduct security patrols. But these tasks are usually performed in the context of the larger company mission of attack or defend. The scenarios used in our maneuver live-fire STXs were therefore derived from tasks on the company's mission essential task list (METL).

Of the tasks on the light infantry company METL, I considered two the most important: the movement to contact-hasty attack, and the deliberate attack (night). By changing the elements of enemy and terrain in the METTT analysis (mission, enemy, terrain, troops, and time), we were able to develop a wide variety of maneuver live-fire STX scenarios that required units to expand their repertoire of tactics, techniques, and procedures (TTPs).

An important self-imposed restriction for our live-fire training was that no unit could double as the controlling headquarters for the task it was executing. This meant that training was always conducted at least one echelon down.

If all the appropriate bases are covered in planning and coordination, rarely will a brigade or division commander say "No" to a live-fire exercise that makes sense.

The largest formation the battalion could train was the company, the largest a company could train, a platoon, and so on.

The beauty of training at least one level down is that units can conduct high-quality training that is resourced almost exclusively by the unit itself. For example, if the battalion was running company maneuver live-fire STXs, while one com-

pany was in the execution mode, another picked up range support and the third was free to conduct preparatory or remedial training.

To reinforce the combined arms aspects of the fight, at whatever level STXs were conducted, all next-higher level systems and supporting arms that would be present in combat had to be replicated. Leaders were given the same base operation or fragmentary order (with supporting annexes and graphics) that they would normally receive from their next higher headquarters.

Of the tasks on the light infantry company METL, I considered two the most important: Movement to contact-hasty attack, and deliberate attack (night).

All live fires were evaluated in accordance with TEOs from the appropriate MTPs. For squad and platoon maneuver live-fire STXs, if the company did not have enough observer-controllers (OCs) it was augmented with officers or NCOs from the battalion staff. I was the senior OC for all company level live-fire STXs, assisted by the command sergeant major and a tailored cadre of staff officers and NCOs.

Although OCs doubled in a limited capacity as range safety officers, the focus of their safety charter extended only as far as ensuring that all fires stayed within the range safety fan. Silence from the OC implied consent. As in combat, all fire control within the range fan was the responsibility of the chain of command in the executing unit.

This was an extremely important facet of the way our training was conducted. While there were risks involved, because of the level of detail in our planning and rehearsals, I was confident that this structure would be enough to maintain the balance between safety and realism. As a result, it prevented our live-fire exercises from becoming "canned" events with too many safety considerations.

What it did was to take the primary responsibility for safety off the OC and put it on the chain of command where it belonged. I credited this training procedure with being a significant systemic contributor toward embedding internal company fire control standing operating procedures (SOPs) down to the lowest level.

Whether a live-fire STX was designed as a day or night operation, the first iteration was always conducted as a daylight blank-fire force-on-force run using MILES (multiple integrated laser engagement system). After the after-action review (AAR), the senior OC decided whether it was safe to go "hot" or another MILES iteration was needed.

For night live-fire STXs, a daylight live-fire iteration was also conducted. All signals and fire control aids to be used at night were rehearsed. After the AAR for this iteration, the senior OC made the call to go "hot" at night, or to conduct another daylight run.

Before executing any maneuver live-fire STX, we planned and coordinated in considerable detail. Company com-

manders had to do their homework before I allowed them to brief a live-fire exercise at a training meeting as a scheduled event. First, they had to work out all the resourcing issues with the S-3. If the exercise could be resourced, they had permission to do further planning.

Commanders were then required to brief me personally on all facets of the training before any live-fire exercise was approved for execution. I wanted to see operations graphics overlaid on range fans, detailed objective sketches, and plans for targetry, safety, risk assessment, support, and evaluation. Once I approved it, the range packet was given to the S-3 for final coordination at the training support meeting.

While some might criticize this as micromanagement, I saw these briefings as an integral component of the mentoring process. Because of the Army's policy on the assignment of company-grade officers, most captains who come to light units after their advanced course have only mechanized infantry experience. Even officers who arrive in the battalion with Ranger qualification lack an appreciation for the level of detail it takes to plan and control light infantry operations at company level. Although they are quick and ready learners, they simply do not have enough light infantry experience at this point. They need to be taught many of the things more experienced light infantrymen take for granted.

I viewed these sessions as the heart of commander's business and used them as professional tutorials. They were my quality time with the company commanders. The meetings were very informal, usually over a cup of coffee at a table in my office. They were one-on-one with a lot of give and take. Our discussions usually went far beyond the live-fire STX they were trying to get approved. We also discussed how I wanted them to fight their units and therefore how I expected them to train.

The company commanders came to know how I thought through operations, and I learned how they did it. I tried to

talion commander. He must be committed to doing these exercises the right way, persistent in overcoming obstacles, and unwilling to settle for anything less.

The Payoffs in Combat

Having realistic maneuver live-fire STXs as the centerpiece of collective training was the critical factor that enabled us to defeat the enemy in all of our tactical engagements in Somalia. Squads, platoons, and companies were able to con-

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duct fire and maneuver confidently, aggressively, and safely. Supporting direct fires were routinely placed within five meters of advancing soldiers, both day and night.

This did not happen through luck. Live-fire exercises gave units the opportunity to perfect internal fire control SOPs so they were clearly understood by all. In most respects, the fire and maneuver we executed in combat were done exactly as we routinely did them in training. Constant repetition made it seem natural. Given the intensity of close combat, this is not a lesson that can be learned on the spot once a unit is in contact with the enemy.

As the ground element of the quick reaction force of the United Nations command in Somalia, the task force always had to be ready to respond to crisis situations. In these cases, our planning time was severely limited. Once the initial concept of the operation had been hastily sketched out with the company commanders, there was never enough time to make sure it was clearly understood at the lowest level. And because situations were often unclear, we had to rely on our professional judgment to fine-tune our concept of the operation once we were in the objective area. Much of this was done on-the-fly.

The derivative benefits of extended maneuver live-fire training were most prominent in these operations. If the battalion had not focused so heavily on live fire, I do not believe our tactical execution would have been nearly as good in these situations. As a consequence, we might have suffered fratricide or friendly fire injuries on more than one occasion.

Maneuver live-fire training acclimates soldiers and leaders to this environment. Because we concentrated on making our live fires as realistic as possible, leaders developed a keen battlefield awareness that made a lot of radio transmissions unnecessary. Repetitive training in a variety of different situations helped leaders visualize what was happening at lower levels.

The training fostered the confidence that lower echelons were doing the right things, even in the absence of radio traffic, and this greatly simplified command and control. Orders

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give them the benefit of my past mistakes. We frequently hit on larger tactical problems within the battalion that needed resolution. These meetings were mutually beneficial. I never failed to come away from them without learning something new. As I reflect on my command tour, I think of these meetings as the most important things I did.

Any echelon of command has the resources to create a high-quality training environment for the unit below. For training squads, platoons, and companies that are prepared for the challenges of combat, there is no better tool than the maneuver live-fire STX. An abundance of doctrinal material is available to support this effort, but it all starts with the bat-

could tell subordinates what to do without wasting time on how to do it. Without superfluous traffic, the net was clear for reporting. Most important, it gave me and the company commanders the freedom to perform our most critical personal tasks.

When confronted with changes in the tactical situation, we could think through the cycle of action, reaction, counteraction. As a result, we avoided a lot of knee-jerk decisions. On more than one occasion, having the freedom to think kept us from making snap decisions in the heat of battle that, in hindsight, may not have achieved their intended aim and may have been very costly as well.

None of this could have occurred without realistic maneuver live-fire training. An old lesson relearned once again is that units will perform in combat exactly the way they are trained to perform. Conducting realistic maneuver live-fire exercises was the best thing we did to prepare our soldiers and leaders for the conditions of combat.

Because of its live-fire training, the task force achieved overwhelming tactical success in its first engagement and only got better afterward. While soldiers and leaders always maintained a healthy respect for the enemy, they had no doubt as to which was the superior force and which would win in any firefight. The unit was truly an aggressive team with supreme confidence in their abilities. Because they felt they could not be physically defeated, they were never mentally defeated either.

All of these factors played a big part on 3 and 4 October 1993 in the few short hours the task force prepared for combat following our first, unsuccessful effort to rescue the Rangers. Every soldier had clearly heard the din of fighting above the city since the battle began earlier in the day. Ears strained as radios crackled with emotional situation reports that were barely audible above the noise of incoming and

munition. The shouts of first sergeants, platoon sergeants, and squad leaders moving men and equipment filled the air.

When the orders group broke its huddle, there was not enough time for any detailed briefback. Nevertheless, I was confident that the company commanders understood both the plan and my intent. This understanding would be less clear at platoon level, and at squad and individual soldier level, there would be at best only a rough idea of the situation, mission, and fire control measures. The situation com-

Even though they did not understand the full situation, squads and platoons executed their pieces of the operation exactly as planned.

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pelled us to rely on the TTPs we had developed in live-fire training to carry us through.

Soon after the task force left the staging area, it began receiving intense RPG (rocket-propelled grenade) and automatic weapon fire as it had earlier in the day. With most of our soldiers now riding in more survivable APCs, however, we were able to fight our way through. Once in the vicinity of our objectives, soldiers dismounted from their APCs and carried the fight on foot.

Our hastily developed plan survived enemy contact with only minor modifications. Even though they did not understand the full situation, squads and platoons executed their pieces of the operation exactly as planned. Although there were several grim moments before the mission was accomplished, the end result should not have come as a surprise. What these men were asked to do that night was, in many ways, merely a variation of what they had done so often in training. Further, the task force did not suffer a single fratricide or friendly fire injury. The linkup with and extraction of the Rangers was a success. Extensive live-fire exercises in training were the key to that success.

In every interview after the experience in Somalia, the soldiers and leaders of the task force confirmed what we already knew: In their minds, what best prepared them for combat was the extensive live-fire training the unit had conducted as a matter of routine at Fort Drum and in theater. As I had done years before, they also had come to believe in the importance of this core performance area.

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outgoing fire. There had already been many U.S. casualties and as long as the battle raged there were bound to be more. No one believed it would be an easy night.

In the darkness, a couple of soldiers held flashlights aloft, and the orders group crowded in on all sides as I talked them through a simple concept of operations from a map stretched over the hood of a vehicle. In the background was all the discordant noise of a unit trying to make something complex and difficult happen very quickly. Helicopters raced low overhead. Executive officers and platoon leaders scurried around, positioning armored personnel carriers (APCs), tanks, and trucks from various units into march order for-



Infantry Company Operations In an Extreme Cold Environment

Captain Jonathan D. Thompson

During the winter of 1939-1940, the Soviet Army invaded Finland. In spite of early gains due to the element of surprise along the Finnish border, the attacks soon slowed, especially in the heavily forested, less developed regions of central Finland. The Russian soldiers were neither prepared nor equipped to fight in extreme cold temperatures and deep snow. The Finns were.

In late December and early January, the Finnish 9th Infantry Division stopped the advances of the Soviet 163d Infantry Division and the force sent to rescue it, the 44th Motorized Rifle Division, at the Battle of Suomussalmi. Although outnumbered by as much as two or three to one and equipped mostly with small arms and mortars, the Finns destroyed the two divisions. They knew how to shoot, move, communicate, and ultimately win in the extremely cold, sub-arctic environment.

While most of our recent military operations have been in far warmer areas, we cannot ignore the possibility of cold-weather operations. If our soldiers were to deploy to Bosnia or Korea, for example, they could well encounter deep snow and potentially debilitating cold. Like the Russians, if we could not first conquer the cold, we would not be able to defeat the enemy.

Certainly, severe cold and deep snow pose a challenge for a company commander and his unit, because these condi-

tions affect everything they try to do on the battlefield. Even simple tasks take longer, movement of any kind is slower, and equipment breaks more readily. With proper training and leadership, however, cold-weather operations can succeed.

During my assignment as a training officer at the Army's Northern Warfare Training Center (NWTC) at Fort Greely, Alaska, I have trained and observed many different companies in cold-weather operations. These companies came from the lower 48 states as well as the Alaska National Guard. Although they underwent different types of training, they all experienced similar effects from the cold.

Because a unit may suddenly deploy to a cold-weather theater, a commander needs to know what he can expect to face and how he can overcome the cold to accomplish his mission. From my observations at the NWTC, I have developed some cold-weather considerations that will help a commander prepare for and conduct tactical operations in extreme cold.

Entering the Theater

Some units deploying to a cold-weather theater may have enough warning to conduct some training at home station, while others may have very little warning. In either case, a commander must know how he can acclimatize his soldiers

to the cold and make them combat effective as quickly as possible.

Training at home station and initial training in theater should include setting up and operating the 10-man arctic tent and stove group. At the NWTC, we use M1950 Yukon stoves inside these tents. In temperatures below zero, this shelter may mean the difference between a non-battle cold-weather casualty and a ready-to-fight soldier. But a commander cannot just issue this equipment and expect his soldiers to use it properly; the soldiers must drill on erecting the tent and stove if they are to do it quickly, safely, and properly when it counts the most. Because of the long hours of darkness in the northern regions, units must also train on this task during periods of limited visibility. A well-drilled squad can set the tent up and have the stove operating in less than 15 minutes.

Moving over the snow should be a training priority, because a unit's success or failure may depend on it. Snowshoes and skis are the two primary ways for dismounted soldiers to avoid walking or "post-holing" through deep snow. Both methods require training before soldiers can use them effectively.

Snowshoes are the most likely method for most units, and soldiers can learn all they need to know in about an hour. In fact, if training time is short, a commander may prefer snowshoes to skis, but moving on snowshoes requires more physical effort than skiing and the unit's rate of movement will be slower. Soldiers must also know how to fit snowshoes and make quick repairs.

By contrast, skiing requires intensive training and experienced instructors, but good skiers move faster and more easily cross country than soldiers on snowshoes. Obviously, soldiers who have skied before have an advantage and can form a training cadre for the rest of the unit. Well-conditioned soldiers acquire the skills more easily than less fit soldiers. Because northern areas have many mountainous or hilly regions, ski training should include uphill, downhill, and cross-country movement.

Ideally, the battalion scout platoon is an excellent unit to learn skiing first. For a rifle company, the commander might

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focus his efforts on one squad per platoon or even one platoon. He can then use these trained soldiers for a quick-reaction or reserve mission, a reconnaissance patrol, or any task that requires fast or long movement. Of course, if there is sufficient time for the entire company to train to proficiency, this will greatly improve the commander's flexibility in accomplishing any mission.

A unit that has snowshoes available can learn the basics anywhere, even without snow, but ski training obviously requires snow. Units in cold areas such as Alaska or Fort

Drum, New York, should include ski training in their normal training programs during winter months.

Before deploying or shortly afterward, a unit should cover two other vital areas—cold-weather medical considerations and cold-weather clothing. Soldiers of all ranks need to know how to identify, treat, and—most important—*prevent* cold-weather injuries.

Leaders should ensure that their soldiers have serviceable clothing that fits properly, and that they know how to fit and wear it. Soldiers who wear clothing that is too tight or restrictive have a difficult time staying warm. The vapor barrier

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boots, either the black or white models, protect the feet if soldiers know how to wear them correctly. When a unit is already occupying an assembly area, it is too late to find out that a soldier is getting cold because his mittens are too large or the zipper on his sleeping bag is broken.

A unit must spend time acclimatizing to the environment upon arrival in a cold-weather theater. This is important because a unit that has had no experience in the cold is more likely to suffer cold-weather casualties. Soldiers can acclimatize while training on the tent and stove drill and basic snowshoeing skills. Battle drill practice and other collective tasks can also be incorporated into this training. Leaders need to monitor soldiers for cold problems. If time is available, a unit can increase the soldiers' exposure to the elements as they prepare for military missions.

Offensive Considerations

As the company moves from the initial entry point to its area of operations, the soldiers begin using their winter skills. Clearly, if most of the soldiers cannot ski, they have to move on snowshoes for any dismounted marches, and this is slower than skiing.

A relatively fast way for a unit to move forward is skijoring, in which soldiers on skis are pulled behind a vehicle, normally a small-unit support vehicle (SUSV). A SUSV can pull up to two squads at a time at safe speeds of up to 10 miles per hour. These soldiers do not have to be expert skiers, but they do have to bundle up to protect themselves from the additional windchill of being pulled behind a vehicle.

Eventually, the company will start moving cross country, and to do this effectively the commander must assess his unit's mobility skills. He must also look for a route that will best protect his unit from both the enemy and nature.

As the soldiers begin to move through the snow, they have to make a trail, and this slows movement. In deep snow and dense forests, progress is even slower. Trailbreaking is therefore a major planning consideration for a commander.

Trailbreaking requires a fairly large element because it quickly tires soldiers. The commander should designate one-

fourth to one-third of the company as a trailbreaking element. If the company is moving along a single direction of attack, this element should be a platoon; if the platoons are moving along different routes, the element would be one squad per platoon. Even with skis or snowshoes, soldiers find movement difficult in deep snow. They cut down small trees or bushes and trample down the deep snow. Leaders should have a rotation plan to keep fresh troops making the trail. Also, since the trailbreaking party is moving slowly, it needs to go out earlier than the main body. A general rule is one hour earlier for every five kilometers of planned movement.

In addition to cutting a trail, the trailbreaking party navigates for the main body. In the large forests of the north, terrain features are not really evident, and a unit has to use dead reckoning to maintain its azimuth. (Soldiers need to be careful that the fluids in their compasses do not thicken in extreme cold temperatures.) While trying to stay on azimuth, trailbreaking elements must also be concerned about concealing their movement.

In addition, the commander must decide what the soldier's load will be. Soldiers need to carry their rucksacks with basic survival gear (sleeping bag, mittens, warm



clothing, food). But when the unit is traveling with rucksacks or pulling an ahkio sled, movement becomes more difficult.

The multi-purpose ahkio sled can hold up to 200 pounds of cargo. Normally, a unit uses the ahkio to carry tents and stoves, but it can also carry ammunition, mortars, and supplies. Pulling an ahkio in temperatures below zero does allow a unit to have the tent and stove readily available to set up for a warming shelter when it is needed. But pulling ahkios also requires the soldiers to break wider trails and cut more trees and bushes. Understandably, this requires even more physical effort, and the commander must have a rotation plan to keep fresh trailbreakers on the job.

Another consideration in hilly or mountainous terrain is the danger of avalanche. Avalanche awareness requires detailed training and skill. The different snow layers, slope angles, and weather all play a role, and units themselves add the human factor. Often, a commander plans a route that is well concealed from the enemy but does not consider that the route may take his unit directly into an avalanche-prone area.

If a unit is caught in an avalanche, soldiers may be buried alive and the route blocked, which forces the unit to organize a rescue party, try to find any missing soldiers, and find an alternate route *if* it is still able to continue the mission.

If avoiding an area is not possible, a unit should have key individuals trained to know the conditions that might lead to avalanches and then use caution moving across the area. Finally, the unit should also know and practice search and rescue techniques that will save critical time if a rescue becomes necessary.

Another consideration when moving across a snowfield is track discipline. First, a unit needs to limit the number of tracks, because the more the soldiers make, the more likely it is that the enemy will pick up at least one of them. Ideally, there should be one track per direction of attack or axis of advance.

Even with only one track, that track should be kept well hidden. At Suomussalmi, Russian aerial reconnaissance planes tried in vain to find the Finnish forces. The Finns kept their routes concealed by trees and thus protected themselves from identification and subsequent air strikes.

The physical fitness of the soldiers is also important. Moving cross country is only a means of reaching an objective. The soldiers must still be able to fight once the unit has completed its movement.

Another planning decision is whether the soldiers will assault the objective wearing snowshoes or skis or neither. With skis is probably the least preferred method, especially if the commander expects close-in fighting, because skis are too unwieldy and a soldier has difficulty planting his feet. Soldiers find snowshoes easier, but individual movement techniques are more difficult. When deep snow covers the objective, they may prefer using snowshoes to keep from sinking in when speed is critical. On shallow or hard-packed snow, they can assault without either skis or snowshoes and move with relative ease and speed.

The primary fire support systems available to the company may be its own 60mm mortars, because the company mortar section can move the weapons fairly easily on an ahkio sled. Other systems moved by vehicles, such as direct-support field artillery or battalion mortars, will have limited mobility, especially if they are transported by wheeled vehicles. Because deep snow will reduce the effects of point-detonated rounds, the mortar crew should set the fuses for proximity (height of burst three to 13 feet) or near-surface burst (height zero to three feet). This provides the greatest spread of shrapnel over the target area.

Generally, cold weather may favor offensive operations because soldiers stay warmer on-the-move. Soldiers in the defense may be as concerned with staying warm as with fighting the enemy. Still, movement and other tasks take longer, movement takes a physical toll on the unit, and fewer soldiers are available for the final assault.

Defensive Considerations

Despite a preference for offensive operations in cold weather, a unit will receive a defensive mission at some time

or other—occupying an assembly area or manning a battle position—and will face some challenges unique to the more static environment.

Because units are not moving, soldiers are not producing as much body heat and need external warming shelters, especially when temperatures are extreme. This means units have a greater chance of suffering cold-weather casualties, and leaders need to be alert to this. Fortunately, it is easier to inspect soldiers in a defensive situation.

A unit may initially establish stationary observation posts (OPs). These should always be two-man OPs and should not be kept out for long periods of time. A commander who needs to keep them out should rotate the soldiers about every half hour.

Local security patrols are better, because they are more active. But patrols may be limited, depending on the temperature, so soldiers can warm up as required. The patrols also have to be careful about making tracks that identify them to the enemy in front of the positions.

Soldiers in fighting positions have their own challenges. First, it is unwise to set the tent up immediately behind the front lines, because it is unprotected and provides a thermal signature. Normally, tents should be erected 300 meters or

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more behind the lines; however, soldiers still need to stay warm while maintaining an alert defense. One technique is to construct a snow shelter immediately behind the fighting position. A field expedient thermal shelter constructed of a log frame covered with ponchos and then snow provides a quick shelter with a limited thermal signature. Temperatures inside the shelter may be 50 degrees higher than outside. If a unit organizes its defense around fire-team positions instead of two-man positions, two men from each fire team can be in the shelter while the other two man the weapons. Instead of going back 300 meters to the tent when they need to warm up, they can move back only a short distance.

Regardless of the type of shelter, reaction to enemy contact may be slower, especially when the commander reduces security posture from 100 percent. Soldiers in the shelter or tent will take longer to put on their cold-weather clothing and get to their positions. The commander should rehearse enemy contact drills during both daylight and darkness. The organization of equipment and weapons in or around the tent will make this drill run more smoothly.

The construction of fighting positions is another challenge for soldiers in the defense. Soldiers trying to dig into frozen ground with entrenching tools will probably break the tools before they have dug anything that will protect them. They need pioneer tools even to make a dent, and engineer support from a small emplacement excavator

or explosives is even better. Even with this assistance, digging in takes more time and effort.

Fields of fire are another concern. If the defense is in three feet of snow, soldiers must remove the snow before they reach the ground. As they bore into the earth, the snow will still be above their holes. They must clear fields of fire while protecting themselves from indirect fire. As they clear fields of fire, they also need to watch the concealment of their positions from the enemy side.

A unit will find that “building up” is much easier than digging in, but this provides only limited protection against indirect fire. When building up, soldiers use existing materials such as snow, ice, and frozen ground to provide protection against direct fires. “Ice-crete”—a mixture of snow, ice, sand, and gravel—provides good frontal protection, but it requires water as well as sand or gravel, and these substances may not be available in large amounts.

As in the offense, track discipline is important in the defense. Because soldiers will be in the same general areas for longer periods, they may create more tracks. Each trail is potentially an arrow pointing the enemy to the defense. Leaders need to be alert to this and strictly enforce track discipline.

Such passive areas as track discipline and concealment of tents and positions are the unit’s best protection from air attack.

Both defensive and offensive operations are difficult in an extreme cold environment, because soldiers are fighting both the cold and the enemy. They also rely more on logisticians to provide them the supplies to keep them combat effective. And in a cold-weather region, combat service support (CSS) can be the decisive factor.

Combat Service Support

CSS is critical to any military operation. A unit cannot fight without bullets and food. Inadequate CSS operations probably have a faster detrimental effect on tactical operations in cold weather than in any other environment. Because of the nature of surviving and fighting in the cold, units consume more Class I, II, III, VII, VIII, and IX, and moving these supplies forward is far more difficult.

First, a soldier requires more food and water. In extreme cold, he needs around 4,500 calories per day for tasks that require only moderate exertion and up to 6,000 calories with heavy exertion. Three MREs (meals, ready to eat) provide less than 4,000 calories, and a soldier needs food supplements. The cold-weather rations in the inventory provide enough calories and are less bulky than MREs. Any of these rations that are available should go to the soldiers on the front lines.

Hot meals are still best for soldiers: The body does not have to use additional energy to warm the food during digestion, and hot food is a morale booster for soldiers out in the cold for extended periods. The drawback is that hot meals are harder to prepare and move to the front lines. Still, a unit should make every effort to get hot food to the soldiers whenever possible.

Water is another critical item, because dehydration is a leading contributor to cold-weather injuries. Soldiers need four to six liters or quarts of water per day in cold weather. Unfortunately, the available drinking water (as opposed to ice) may be limited. When a unit cannot transport water, soldiers must melt snow to replenish their canteens. They still need to protect their canteens from freezing. The current arctic canteen will freeze quickly in intense cold. A soldier should keep at least one canteen next to his body and the other wrapped in a scarf or other heavy article and inside his rucksack. This will help keep it insulated and liquid for a few hours. Also, filling it with hot water will keep it from freezing for a longer time.

Having enough water available will do no good, however, if soldiers don't drink it, and they may not feel the same need to drink that they feel in a warmer environment. Leaders therefore need to monitor their soldiers. One good way to

Without proper CSS operations such as resupply and medical evacuation, a unit becomes less an asset than a liability for its higher commander.

monitor intake is to check urine output. Dark-colored urine indicates a soldier is not drinking enough liquids. Consuming soups and other hot liquids can help maintain the proper fluid level, but large amounts of coffee and tea will cause a soldier to urinate more often, which also leads to dehydration.

Maintenance is also a challenge. In extremely cold temperatures such as -30 degrees Fahrenheit and below, plastic, rubber, and metal all become more brittle and subject to breaking. The normal lubricants for weapons and vehicles thicken and will not perform as required. This, in turn, causes lower operational readiness rates for just about everything. Also, a soldier's desire to perform proper preventive maintenance checks and services may decrease.

More important for a light infantry unit is the care and maintenance of small arms. Leaders need to ensure that soldiers are taking care of their weapons properly. Weapons sweat, and this moisture condenses on cold weapons brought into a warm tent. Keeping weapons outside the tent is preferred, but any weapon brought in should be allowed to sweat for about an hour and then wiped dry. Otherwise, the condensation will freeze and lock the weapon up when it is taken back outside.

Machinegunners and automatic riflemen should warm their weapons with a slow rate of fire. If they fire too fast, the buffer assemblies and firing pins may break. Soldiers should use LAW (lubricant, arctic, weapon) instead of "Breakfree" lubricant on weapons. If LAW is not available, soldiers should keep their weapons dry.

Any battery-powered device has less output under cold conditions, and the batteries die much quicker. Magnesium batteries for radios are not effective at -40 degrees. Even lithium batteries have less output at those temperatures.

Furthermore, soldiers need to handle communication equipment carefully in the cold, because cords and wires become brittle and break easily.

Company medics have a harder task in the cold and must actively check soldiers for cold-weather problems. Integral to this is having leaders physically checking their soldiers as well. If medics and the chain of command do not inspect, it is only a matter of time before cold-weather problems and then casualties appear.

Medics also need to make sure their supplies do not freeze. Such fluids as intravenous solutions are especially susceptible. In 1939-1940, Finnish medics kept fluids from freezing by keeping them next to their bodies. Medics attached to infantry companies will have the same problems today and will need to take similar precautions.

As for clothing, the extended cold-weather clothing system (ECWCS) uses modern materials to protect soldiers from the cold. This system is effective as long as soldiers size it and wear it correctly. Since ECWCS uses several layers for insulation, soldiers need to make sure the outer layer garments (parka and trousers) are large enough to fit over the inner and intermediate areas and still allow freedom of movement.

With the layered design of the ECWCS, soldiers need to wear just enough layers to keep them warm while stationary and avoid overheating while moving. The ECWCS has different zippers and layers that soldiers can use to ventilate the clothing and regulate the amount of heat lost or trapped.

Without proper CSS operations such as resupply and medical evacuation, a unit becomes more of a liability than an asset for its higher commander. Commanders and their CSS operators and planners need to pay extra attention to this critical area of military operations. If soldiers do not have food, clothing, heat, and shelter, they will suffer cold-weather injuries and possibly death.

There is no big secret to fighting in an extreme cold environment. Tactics that work in a temperate environment will work as well in the cold. The only differences will be the conditions under which they are executed. Commanders and small-unit leaders need to know that while the cold will adversely affect what they do, it will not make what they do impossible.

Leaders must work extra hard to ensure that their soldiers remain a healthy combat force. At all levels, leaders need to be confident in their own ability to survive, fight, and win in the cold. If leaders have a problem with the cold, or show pessimistic, defeatist attitudes, so will their soldiers.

During the Russo-Finnish war, the Finns proved that small, well-trained forces could defeat much larger but less-trained forces in a harsh environment. With proper training, equipment, knowledge, and attitude, our soldiers can also be victorious in some of the harshest conditions on earth.

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TRAINING NOTES



RSOI At the National Training Center

MAJOR DANIEL J. McROBERTS

Reception, staging, onward movement, and integration (RSOI) adds a new dimension to rotations at the National Training Center (NTC). An outgrowth of the post-Cold War era, RSOI is designed to exercise force projection doctrine, encompassing a rotational unit's first week of training.

The title RSOI is relatively new and in line with U.S. doctrine, but it is still in its evolutionary stages. RSOI is based on an analysis of the specific elements of the deployment process:

Reception. Unit arrival in theater.

Staging. Building combat power; integration of combat-ready equipment and personnel; marshalling area activities.

Onward Movement. Unit deployment from the staging area to its gaining command in the field.

Integration. Unit arrival at the tactical assembly area of the gaining command and integration into its command and control structure.

The NTC scenario for the exercise centers on a fictitious community of Third World nations inhabiting the Caribbean island of Tierra del Diablo. One of the nations, the Republic of Mojave, is a U.S. ally faced with increasing hostility from neighboring Krasnovia. Unable to defend itself against

Krasnovia, Mojave has requested substantial military assistance from the United Nations. Rotational units therefore deploy to the island as part of Joint Task Force (JTF) Mojave, within the area of responsibility of the United States Irwin Command. Upon arrival in theater, they are placed under the operational control of the 52d Infantry Division. Their mission is to deter or counter Krasnovian aggression.

RSOI has five objectives:

- Place immediate tactical requirements on the brigade combat team when it arrives in theater.
- Replicate the draw of prepositioned equipment.
- Interface with the theater logistics base.
- Replace what was previously an administrative draw week with a tactical RSOI scenario leading to conventional operations.
- Provide observer-controller (OC) observations of the unit's effort to build combat power.

An associated RSOI objective is to familiarize the rotational unit with the complexity of tactical operations under the constraints of peacetime rules of engagement (ROEs).

The research and planning that went into the creation of RSOI were based on

various documents, notably Field Manual 100-5, *Operations*; FM 100-17, *Mobilization, Deployment, Redeployment and Demobilization*; FM 100-17-1, *Army Prepositioned Afloat*; and FM 100-23, *Peace Operations*.

As outlined in FM 100-5, the stages of force projection are mobilization, deployment, entry operations, operations, post-conflict or post-crisis operations, redeployment, and demobilization. RSOI focuses on the deployment and entry operations stages. Only the rotational unit is in a position to assess its proficiency at mobilizing and demobilizing. The operations stage consists of conventional training in the NTC's live-fire and maneuver areas and therefore does not pertain to RSOI. Neither is the post-conflict or post-crisis stage currently addressed in RSOI.

The unit examines aspects of its own deployment, including predeployment activities, movement to ports of embarkation, and strategic airlift. On arriving in theater, the unit is observed by logisticians, technicians, and trainers at the NTC as it enters the RSOI phase of its training and conducts entry operations.

In replicating Irwin Military City and the theater logistics base in the Republic

of Mojave, the NTC represents a semi-mature theater. Accordingly, the rotational unit conducts unopposed entry operations as soon as it arrives. Unit requirements in this regard include:

Protect the force. Protecting the force includes such unit actions as the operation of a checkpoint, reconnaissance and security of routes, fratricide prevention, enforcement of safety standards, conduct of preventive medicine, activation of air defense measures, conduct of liaison with local authorities, and exercise of sound operations security (OPSEC).

Assist Forward-Presence or Host Nation Forces. This involves many potential missions. Among them are relief in place, clearing obstacles and mines, delivering supplies, securing borders, routes, and lodgments, and conducting show-of-force operations.

Build combat capability. Building combat capability includes coordinating with the theater logistics base, conducting large-unit supply operations, constituting CSS units rapidly to support the overall effort, drawing equipment, training personnel, and conducting marshalling activities to integrate combat-ready personnel and equipment. The preferred method is to approach this task by building combat-capable units over time with standards and goals specified and tracked by the brigade chain-of-command. The average length of time consumed by rotational units in building the entire brigade combat team at the NTC is six days (D-7 to D-2, Sunday to Friday, the day before move-out).

Reconfigure. Reconfiguring encompasses tailoring the force to the mission, task organizing, prioritizing the effort to build combat-capable units, and establishing command, control, communications, and intelligence as rapidly as possible. Both the plan and the method of task organization in relation to the equipment draw are vital issues for the unit to resolve before its arrival at the NTC.

Acclimatize. Acclimatization is a complex process. To operate effectively in a foreign theater, troops must adjust to the physical environment (climate,

weather, and terrain). They must also be sensitive to the cultural environment, understanding social, political, economic, and religious factors that characterize the geographical area in which they are operating.

Train. Training entails all of the actions that make a unit combat ready. In the context of force projection, some of the more important topics include actions on contact, ROEs, Status of Forces Agreement provisions and stipulations, OPSEC, noncombatant evacuation operations, crowd or riot control, and reaction to the news media. Conventional combat training must also continue as the unit conducts marshalling activities. As always, safety remains a top training priority.

From the moment a unit arrives at the aerial port of debarkation until redeployment, it engages in force protection and acclimatization. These are processes that never stop. Building combat power, reconfiguration, and training occur once the unit enters its staging area. Soon afterward, the brigade combat team must be prepared to assist forward-presence or host nation forces. This means the unit must be able to provide tactical support before it has completed staging operations at the brigade level. It also explains why combat organizations are built incrementally, so as to make available some combat capability (a certain number of companies or teams) for rapid deployment as quickly as possible.

The notional command structure that drives RSOI parallels that of a unified and specified command and is therefore joint in nature. The commanding general of the NTC serves as commander-in-chief of the U.S. Irwin Command. The commander of the operations group assumes the role of commander of JTF Mojave and U.S. Army forces. There are also Marine Corps, Navy, Air Force, and Special Operations commands.

RSOI allows the rotational brigade to exercise a "road to war" timeline. While attending the Leader's Training Program at the NTC, the unit's command and staff element receives an RSOI orientation briefing. After returning to

home station, the unit begins to get into the RSOI scenario for planning purposes.

Using a "D-Day" vernacular to standardize the overall training timetable (D-Day is Training Day One—the first conventional battle against hostile forces), the scenario begins to develop as follows:

D-100. The final NTC scenario is approved by the appropriate division chain-of-command in coordination with the Operations Group planning staff.

D-90. The unit receives from the NTC a Joint Chiefs of Staff alert order signaling possible deployment to Mojave to deter or counter aggression from Krasnovia.

D-45. The unit receives a JCS deployment order directing its operational control relationship with the 52d Infantry Division and deployment to the host nation.

D-7. The unit's advance party begins to arrive in theater. The JCS alert order includes an island study of Tierra del Diablo and a news network video tape providing extensive background information. The JCS deployment order contains another news update and an intelligence estimate.

The RSOI week timeline is a new feature of NTC rotations. Beginning on D-9, the unit receives a warning order for a specific mission to be executed before move-out. On D-6 the unit chain of command meets the U.S. Ambassador to Mojave and receives an RSOI fragmentary order in the JTF headquarters located in Irwin Military City. That same day, the unit backbriefs the JTF commander on its concept of operation pertaining to the RSOI mission and its method and plan for building and tracking combat power. From D-7 to D-2, the unit receives strategic updates from the 52d Infantry Division staff and briefs the JTF commander daily on progress in building combat power.

The 52d Division issues the first operations order for the rotation on D-3. On D-2, a tactical mission is executed. Also, OC teams conduct RSOI after-action reviews (AARs) at

the battalion, task force, and separate company levels, and the unit receives its last strategic update before deployment. On D-1, a brigade-level RSOI AAR is conducted by the operations group commander. Attendees include the brigade commander, executive officer, S-1, S-3, S-4, task force and battalion commanders, and separate company commanders.

Observer controllers assigned to NTC observe the unit during RSOI and provide feedback to unit leaders through the AAR process. To gain a comprehensive view of unit activities during RSOI, the OCs use the following frame of reference:

Intelligence. Strategic and tactical information processing.

Building Logistics Power. Large-unit supply actions, such as breaking down and issuing supply commodity items; theater logistics base interface, including the opening of theater accounts.

Training. ROEs, safety, environment, and other critical subjects.

Building Combat Power. Marshalling activities, equipment-personnel integration, staging area operations.

Force Protection. OPSEC, sensitive item and ammunition security, and movement control in staging area.

Battle Command. "See Yourself" issues (nature, condition, status).

Keys to success during RSOI include developing and implementing a plan for building combat power and a system for tracking such an effort. Intermediate goals, established by the chain of command, help measure progress and facilitate the adjustment of priorities during RSOI. Additionally, it is important to brief soldiers on the in-country political and tactical situations so they know the larger themes that drive the scenario; that is, the reason for deployment and the names of the countries involved, as well as friendly and potential enemy forces. The degree to which the

unit has been briefed becomes apparent when news media representatives from the fictitious network interview soldiers and their leaders at all levels and ask questions pertaining to these very issues.

RSOI is the primary vehicle through which force projection doctrine is trained at the NTC. In time, it will have a decisive effect on the Army's ability to conduct unopposed theater entry operations around the world. As more units experience RSOI as a standard feature of NTC rotations, it will also become an integral part of their home-station training. Along with other adjustments made to address a changing world situation, RSOI training at the NTC is a stepping stone to a new era in the combat readiness of the force.

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OPFOR Tactical Reconnaissance

SPECIALIST MATTHEW R. CRUMPTON

Since the collapse of the Soviet Union and the dissolution of the Warsaw Pact, the threat once posed by those entities no longer exists in the form we can recall from a decade ago. Many vestiges of both systems remain, however, in the doctrine and equipment of today's potential threats to world stability. For that reason, the National Training Center (NTC) is patterning its opposing force (OPFOR) on the doctrine and organizations of foreign armies and not just one particular nation, to prepare units undergoing training at the NTC to deal with future adversaries.

Units conducting operations at the NTC soon learn that advancing without

the intelligence provided by reconnaissance means taking unnecessary chances—often with catastrophic results. They also learn that the OPFOR itself places extensive emphasis on reconnaissance. This article will briefly discuss one divisional reconnaissance variant, although OPFOR deployed assets may vary based upon the tactical situation.

Tactical Reconnaissance

The purpose of tactical reconnaissance is to support the operations of units at division level and below. These operations are limited to the tactical depth of the battlefield (50-100

kilometers). At the tactical level, OPFOR ground forces employ a variety of small reconnaissance and security groupings that are tasked and tailored to meet the specific needs of the tactical commander.

The OPFOR uses the principles of *focus, continuity, aggressiveness, reliability, accuracy, timeliness, secrecy, and reserves* to guide its reconnaissance activities. It strives to achieve these both simultaneously and continuously on the NTC battlefield.

The NTC OPFOR doctrinally employs four methods of reconnaissance: *observation, raids, ambush, and reconnaissance by combat*. In the

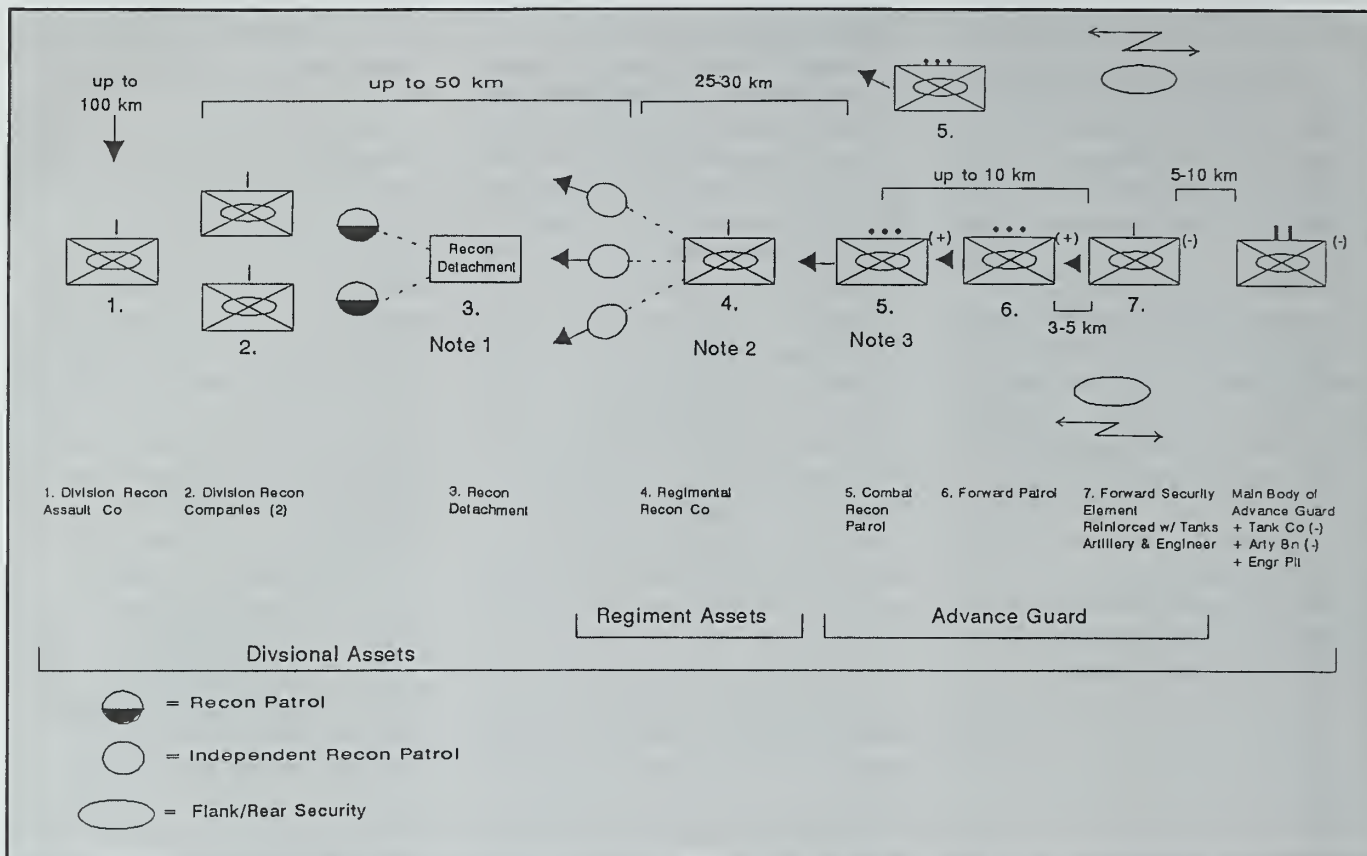


Figure 1. Employment of Tactical Reconnaissance

execution of their mission to acquire information about its opponent and the area of operations, reconnaissance elements will attempt to uncover intelligence on the order of battle, the fire plan, indicators of when the enemy will employ precision weapons, and the locations of control points, antitank weapons, and reserves. The OPFOR will also attempt to locate, identify, and report the capability of the weapon systems to deliver nuclear fires when employed.

The OPFOR commander concerns himself with the enemy and terrain directly opposite him, out to a depth of 100-150 kilometers, and his tactical

reconnaissance priorities include the following:

- Direct support artillery and its associated radar locations.
- The disposition of tanks and infantry antitank systems.
- Command, control, and logistical facilities.
- The nature and extent of obstacles.
- The locations of defensive positions.

Divisional Assets

Figure 1 represents a typical OPFOR divisional security grouping during an offensive march operation. Although the distance and organizational struc-

ture may well vary according to conditions of mission, enemy, terrain, troops, and time (METT-T), this figure provides a good schematic of the density and spatial relationship of the OPFOR's reconnaissance effort that maneuver units must counter.

The reconnaissance assault company—also known as a long-range reconnaissance company—may be inserted by parachute, helicopter, vehicle, or on foot up to 100 kilometers forward of the division's main body. The company (Figure 2) is broken down into teams of five or six men with the mission of locating high precision weapons, command and control posts,

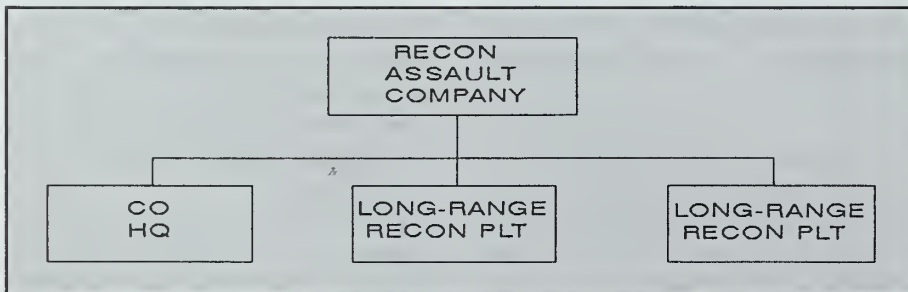


Figure 2. Typical Reconnaissance Assault Company

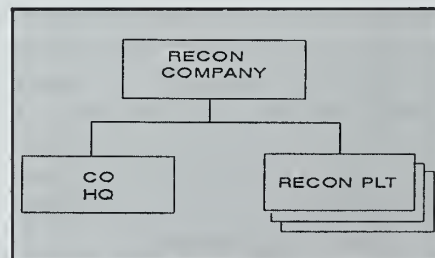


Figure 3. Typical Reconnaissance company

headquarters, and an opponent's reserves. These teams can be equipped with antitank grenade launchers (ATGLs), small arms, and possibly armored scout vehicles that can be carried by transport helicopters.

The division's two reconnaissance companies will operate across the division's front, and to a depth of up to 50 kilometers. The typical reconnaissance company consists of a headquarters and three reconnaissance platoons (Figure 3). Each company may be part of a reconnaissance detachment or may form independent patrols. These patrols receive their own reconnaissance objectives and can be expected to avoid contact in order to achieve them. Each patrol consists of two or three vehicles and operates on multiple axes in the area between the reconnaissance assault company and the regimental reconnaissance company. The size and vehicle mix of each patrol will depend on the terrain, enemy strength, and the relative importance of its axis within the division's main axis. These patrols may also be equipped with ATGLs, small arms, and armored scout vehicles.

A reconnaissance detachment, the largest tactical reconnaissance grouping, may be deployed by a division or sometimes by a regiment. The detachment is generally deployed along an axis, or in a given zone along the most important direction of attack, with the mission of gathering information about the enemy or terrain. Although normally employed in the attack, it may also be used during the march and forward of the security zone in the defense.

The reconnaissance detachment normally consists of a motorized rifle, tank, reconnaissance, or parachute assault company or battalion, reinforced with armor, air defense, antitank, engineer, artillery, chemical, and helicopter support. The detachment operates by deploying platoon-sized reconnaissance patrols that will avoid contact at all costs, conducting reconnaissance by battle only if specifically ordered to do so. Once in contact with the enemy forces, the reconnaissance patrols assume observation missions. Units of maneuver forces may be used for recon-

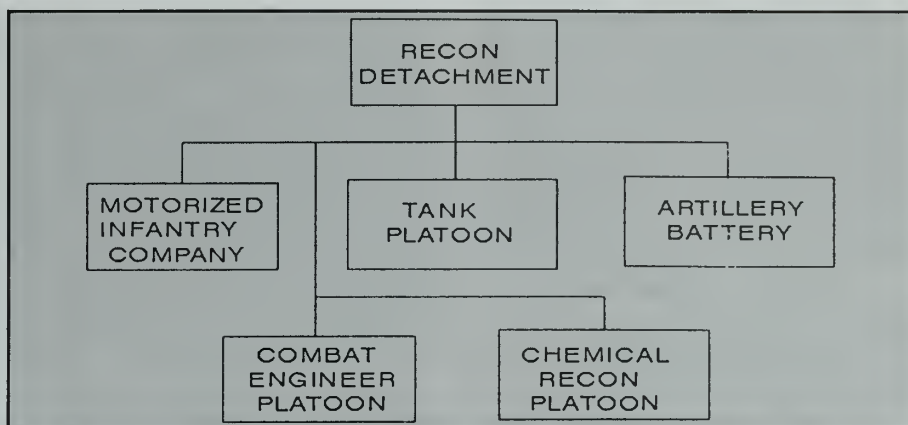


Figure 4. Temporary Reconnaissance Detachment

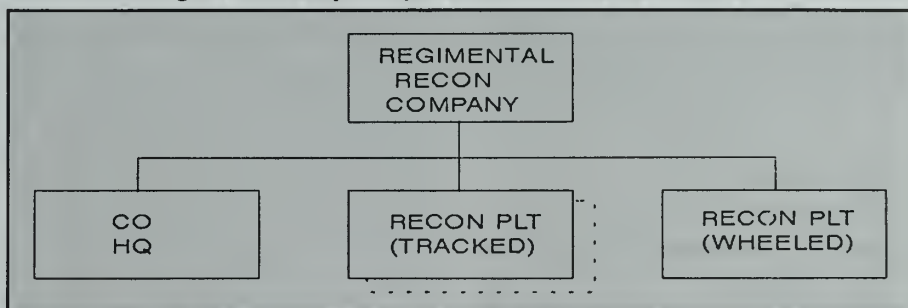


Figure 5. Typical Regimental Reconnaissance Company

naissance because of the lack of standard reconnaissance assets at a given echelon, or because the commander wants to retain his trained reconnaissance forces in reserve and use regular infantry for the initial reconnaissance effort. The temporary reconnaissance detachment shown in Figure 4 is only one example of a force that has been task organized in response to conditions imposed by METT-T.

Regimental Assets

The typical regimental reconnaissance company (Figure 5) normally operates 25-30 kilometers in advance of the regiment's lead march elements, but it can range up to 50 kilometers. This distance corresponds to the depth of the enemy's second echelon or reserve, which will be a subsequent objective of the regiment. The company will operate either intact, as part of a reconnaissance detachment, or decentralized, in the form of independent reconnaissance patrols.

The regimental reconnaissance company may deploy platoon-sized patrols, each consisting of up to three vehicles and as few as 18 soldiers, that will usual-

ly operate 10-15 kilometers from the company itself. As in the case of the reconnaissance detachment described earlier, these patrols will conduct reconnaissance by observation, avoiding detection and engagement by the enemy, but may conduct reconnaissance by combat if required.

The combat reconnaissance patrols (CRP) of the advance guard doctrinally move approximately five kilometers to the front or flanks of the advance company, and up to 10 kilometers ahead of the parent battalion to reconnoiter and provide security. The parent company or battalion also maintains contact with and observation of the CRP to provide fire support. Normally a platoon-sized formation, the CRP may also be augmented with chemical and engineer reconnaissance assets. If the situation requires, more than one patrol can be dispatched. Since its mission is heavily weighted on route security, the patrol is more limited in the depth of its actions than other reconnaissance patrols. It may engage a weaker force by ambush, but observation is the preferred method of reconnaissance. Figure 6 represents a typical combat recon-

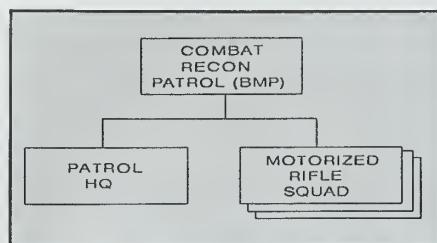


Figure 6. Typical Combat Reconnaissance Patrol

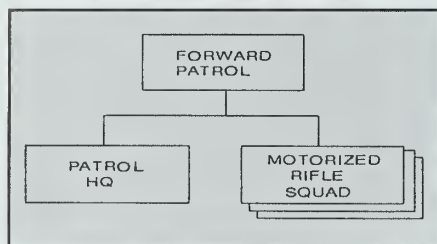


Figure 7. Typical Forward Patrol

naissance patrol.

The forward patrol (Figure 7), usually a squad or platoon-sized unit, follows the combat reconnaissance patrol in the march order, and travels three to five kilometers ahead of the forward security element. The patrol, which is sent out from the advance guard battalion, may be augmented by engineer and chemical reconnaissance assets.

The purpose of the patrol is to ensure security and protection against a surprise attack, but a patrol may also attack from the march to destroy weak enemy forces or seize higher ground. The forward patrol organization may be mistaken for a combat reconnaissance patrol, since both are likely to be platoon-sized and moving only a few kilometers ahead of the forward security element. The main difference, however, is that the forward patrol is not always employed, and when it is it will remain on the same route of march as the forward security element.

The next element in the order of march of the advance guard battalion is the forward security element (Figure 8). This element is normally one of the battalion's three infantry companies designated to travel up to 10 kilometers ahead of—and provide security for—the main body of the advance guard. The forward security element can be reinforced with armor, artillery, engineer, and antitank assets.

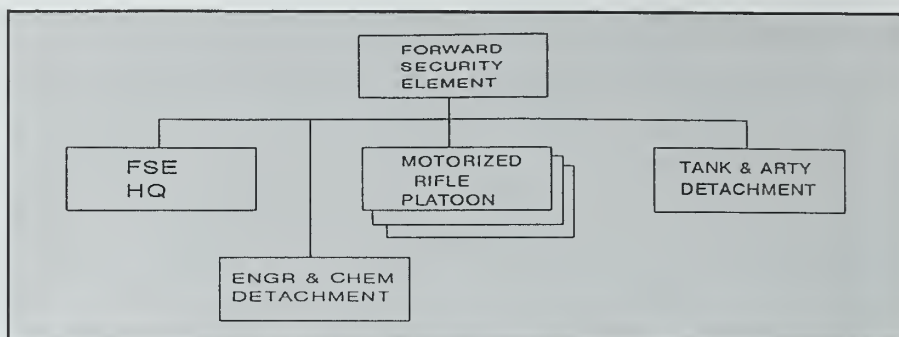


Figure 8. Typical Forward Security Element

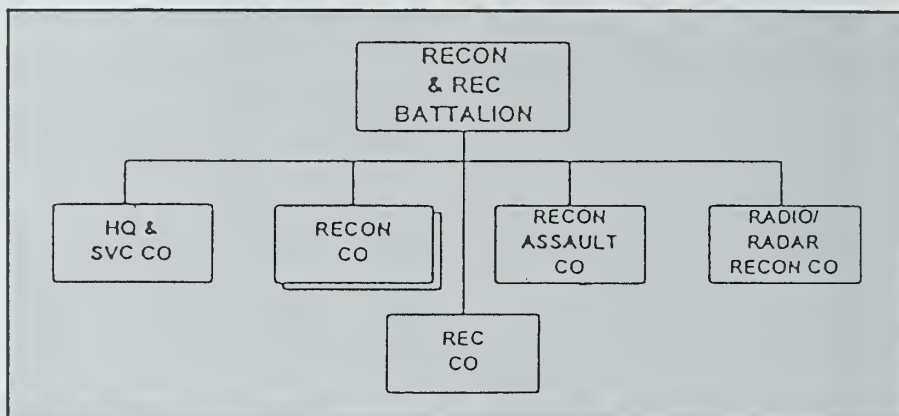


Figure 9. Typical Reconnaissance and Radioelectronic Battalion

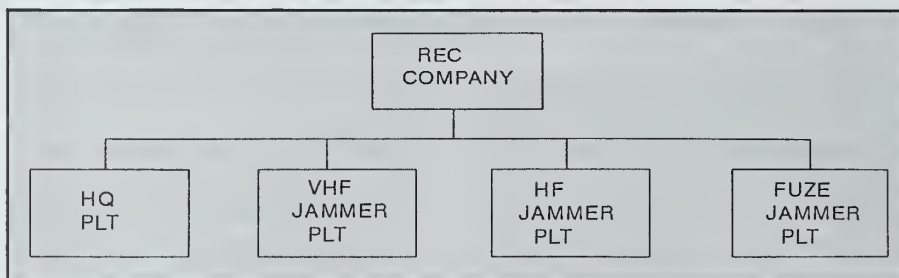


Figure 10. Radioelectronic Combat Company

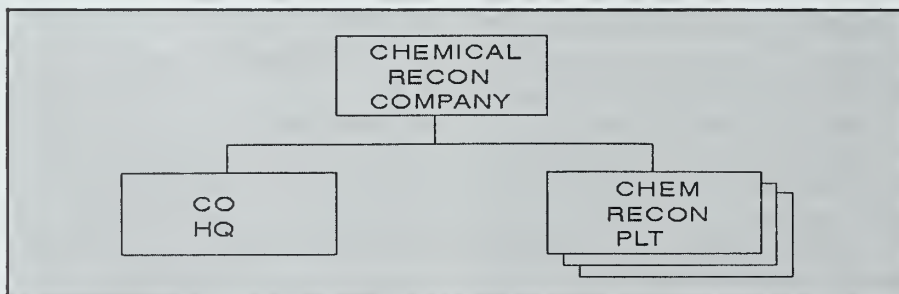


Figure 11. Typical Chemical Reconnaissance Company

Other Reconnaissance Assets

Several other assets that are not reflected in Figure 1 can significantly affect the outcome of an engagement:

The reconnaissance and radioelectronic combat (REC) battalion (Figure 9) consists of two reconnaissance com-

panies, a reconnaissance assault company—also known as a long-range (or airborne) reconnaissance company—a radio and radar reconnaissance company, and a REC company. During offensive operations, the battalion's ground reconnaissance

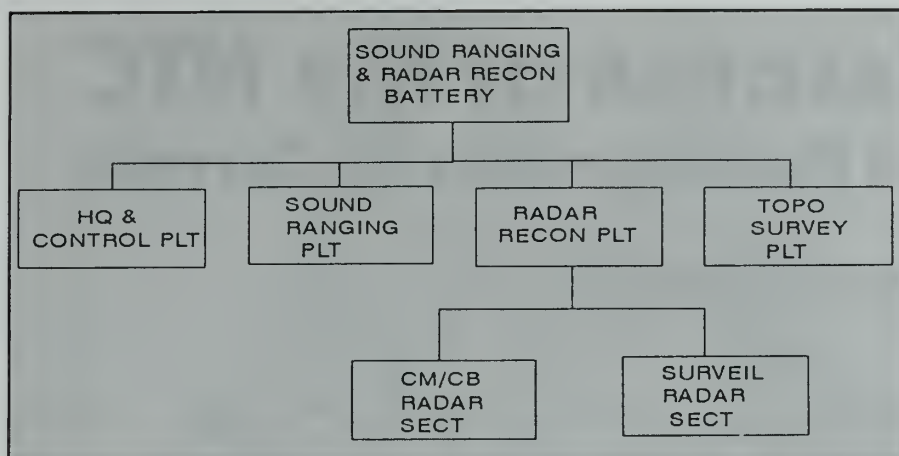


Figure 12. Typical Sound Ranging and Radar Reconnaissance Battery

assets can operate to a depth of 100 kilometers, as discussed earlier.

The priorities of the radio and radar reconnaissance companies include command and control nets in general, tank communications, and radio intercept of maneuver force command and control nets. The priorities for radar intercept focus on surveillance, countermortar, counterbattery, and air defense radars in both the covering force and the main defensive areas. The REC company (Figure 10) is an integral element of OPFOR doctrine. It relies upon the manipulation of electromagnetic emissions across the entire spectrum to accomplish its mission of jamming message and data traffic and the fuzes of munitions.

The engineer reconnaissance platoon is subordinate to the divisional engineer battalion and has the mission of collecting information on the enemy's engineer capabilities and the condition of terrain in the area of interest. The platoon can also operate as an engineer reconnaissance patrol, consisting of a squad or platoon of engineer specialists sent out to obtain engineer intelligence on the enemy and terrain. This patrol may operate either independently or with other maneuver and reconnaissance elements in enemy territory.

The chemical reconnaissance company (Figure 11), a unit of the divisional chemical protection battalion, has the dual mission of collecting information on an opponent's nuclear, biological, and chemical (NBC) capabilities, and

warning of the potential or actual use of agents. The company can deploy patrols to detect the extent and nature of any NBC contamination. A normal chemical reconnaissance patrol consists of a chemical reconnaissance squad and



one special chemical reconnaissance vehicle. Such patrols may also be formed from elements of the regimental chemical protection platoons, and may operate independently or as part of other maneuver and reconnaissance elements.

The last reconnaissance asset to be found in the division's structure is the sound ranging and radar reconnaissance battery (Figure 12), a unit that can prove invaluable in the desert, where sound can carry for great distances and seem to come from many directions. Subordinate to the divi-

sional artillery regiment, the battery is equipped with several battlefield surveillance radars and a countermortar and counterbattery radar. These items of equipment may be operated either independently or as part of other maneuver and reconnaissance elements. (On request, INFANTRY will send a complete set of OPFOR organizational diagrams that also includes unit equipment. The address is P.O. Box 52005, Fort Benning, GA 31995-2005.)

The above represents only one divisional reconnaissance variant that units may encounter at the National training Center. The primary objective of the new OPFOR concept is to overcome the perceived doctrinal rigidity of the Soviet-based OPFOR. This concept will provide a more flexible doctrine that will provide OPFOR commanders a wider range of tactical options. This capabilities-based threat—grounded in a consistent body of documented threat doctrine—will pit our leaders against the OPFOR in a variety of imaginative, realistic scenarios that will develop intuitive, agile, and versatile battle commanders who can read the enemy on tomorrow's battlefields.

The baseline documents for this article are the Heavy OPFOR Organization Guide, TRADOC Pamphlet 350-1; Heavy OPFOR Operational Art Handbook, TRADOC Pamphlet 350-14; and Heavy OPFOR Tactics Handbook, TRADOC Pamphlet 350-16, which documents the capabilities-based OPFOR model. The model was developed to provide a flexible training threat that can be tailored to represent a wide range of potential threat capabilities and organizations. Once units training at the NTC have operated against this OPFOR model, they will be better prepared to deal with the threat that deploying U.S. forces will likely face as we enter the next century.

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Reconnaissance at the NTC

Adapting Scout Procedures to the Terrain

CAPTAIN CHRISTIAN J. HENRICH

Terrain drives a unit's tactics, techniques, and procedures (TTPs) as much as any other factor. This is no less true at the National Training Center (NTC) than anywhere else. But at the NTC the terrain is radically different from that at the home stations of most units.

In preparation for an NTC rotation, the scout platoon of the 4th Battalion, 6th Infantry, reworked its standing operating procedures (SOPs) and methods of scouting to take into account the effects of the desert terrain. This article concentrates on the TTPs the scouts found useful, especially those dealing with the deliberate attack.

While wargaming and training for the rotation, the scouts decided that the usual method of reconnaissance during the deliberate attack was unworkable. Most task force infantry scouts use their Bradley fighting vehicles or HMMWVs (high-mobility multipurpose wheeled vehicles) to infiltrate the security zone. Besides being a difficult vehicle for infiltrating desert terrain, the Bradley was too big to hide during the day. Talks with scouts who had been through the NTC revealed that the opposing force (OPFOR) Hind-D helicopters regularly spotted and destroyed any vehicles that had infiltrated the OPFOR sector during the night. Our scouts therefore decided that infiltration during the deliberate attack would be done on foot.

The platoon did not cover the entire distance from the assembly area to the observation post (OP) positions on foot. Because of the scope of the battlefield, time considerations, and

physical wear and tear, the platoon used Bradleys to cross much of the security zone. The Bradleys inserted dismount teams of three or four men each at predetermined dismount points deep in the security zone. At these points, the teams dismounted and walked to their tentative OP locations.

While inserting the teams, the platoon moved in a line or wedge with no more than 50 meters between vehicles, making little effort to conceal its location. The platoon relied on the combat power of six Bradleys to overwhelm any OPFOR element it encountered in the security zone. Instead of bounding around OPFOR elements, the scouts initiated fires upon contact (see contact drill in Field Manual 17-98-1). Since the OPFOR uses teams of one or two BMP/BRDM vehicles in the security zone, the platoon had overwhelming firepower and invariably won, without casualties, in these encounters.

At the dismount points, the platoon halted briefly to release the dismount teams. The Bradleys stopped for two or three minutes to release one team, then maneuvered to the next dismount point and released another while the first team began its infiltration of four to 10 kilometers.

The platoon leader chose the dismount points and routes in advance. The dismount points had several features in common: First, they were concealed from the enemy, with either wadis or hills providing the concealment. Second, they were deep in the security zone but still out of direct fire

range of the FLOT (forward line of own troops), approximately 2.5 kilometers. Finally, they were close enough to the OP positions to permit the teams to reach and establish the OPs before BMNT (beginning, morning nautical twilight).

Actions at the dismount point were quick and were rehearsed before crossing the line of departure. The team members dismounted and immediately performed radio and sensitive item checks. Meanwhile, the team or patrol leader confirmed the team's location. Within two or three minutes, the teams and vehicles moved rapidly away from the dismount point. In this manner, the platoon avoided engagement by enemy indirect fires and any enemy reconnaissance assets that might move toward the dismount point.

The Bradleys may well have provided concealment for the dismount teams. On a mechanized battlefield, soldiers generally focus on vehicle movement, especially when a six-vehicle platoon moves rapidly through the security zone and engages any OPFOR blocking its route. In this environment, small teams of three or four men can move across the desert floor largely unnoticed, particularly when they infiltrate along terrain that is impassable to vehicles. Staying within the shadows of the hills also helps. Only a fraction of the OPFOR have passive sights, and the shadows inhibit the vision of those who do.

Each team member carried a 50-to-60-pound load. Every man had a sleeping bag (necessary during winter



rotations), cold weather gear, enough MREs for the mission, ammunition, and the rest of his equipment. Special equipment in the teams was as follows: a five-gallon water jug, a man-pack (used at the NTC to track dismounts), an AN/PVS-7, a single-channel ground and airborne radio subsystem (SINGARS) radio, an AN/PRC-126, signal operating instructions, at least one set of graphics, and one global positioning system (GPS) receiver. The platoon leader accompanied one team carrying an additional SINGARS. With this extra radio, the platoon leader's team could serve as the net control station (NCS) and maintain dual net capability at all times. Other teams may also wish to carry directional antenna equipment and a laser range finder, or take along a G/VLLD (ground/vehicle laser locator designator) team.

By the end of the night, the platoon had four or five OPs established throughout the depth of the enemy's sector. The OPs observed and reported during the day. At night, they cached much of the gear and conducted patrols. Reconnaissance on foot always

provides the most accurate and in-depth intelligence. The patrols near the FLOT focused on identifying bypasses or likely breach sites. Deeper in the OPFOR sector, the patrols used GPS to locate and target OPFOR vehicle fighting positions. The accuracy of this instrument made it worthwhile to fire for effect with DPICMs (dual purpose improved conventional munitions) on these positions during the task force attack. The battalion considered DPICM too expensive to fire without an exact fix on the target. These patrols usually identified and targeted five to seven vehicles or fighting positions on each patrol. The payoff increases if the patrols target vehicles anchoring the enemy's flank along the task force's main avenue of approach.

The patrols also provided an excellent opportunity to develop platoon internal target reference points (TRPs) for use during the coming attack. At the NTC, adjusting fire is difficult at best, and using the GPS to find the exact locations of certain terrain features improves the accuracy and speed of calls for fire.

The platoon also modified the task

of establish an observation post as described in the manuals (ARTEP 17-57-10 MTP and FM 17-98-1). First of all, the OPs had neither an overwatching vehicle nor wire for communications. Each team concentrated on finding an OP with an excellent overview of their named areas of interest (usually high in the hills), a well-concealed hide site for concealing equipment and personnel, and concealed routes to and from it. Once the scouts were established at the OPs, their chief threats were Hind-Ds and foot patrols. Concealment is paramount.

In addition to the dismounted scouts' actions, the tracks remained active as well. Usually at least half of the tracks were in need of maintenance of some sort. The M-3 Bradleys take a great deal of punishment at the NTC, and their operational readiness rate often declines sharply. The tracks that needed maintenance returned to the unit maintenance collection point (UMCP) with a skeleton crew of two. The battalion UMCP gave scout vehicles priority. Meanwhile the other tracks served as relay stations for the transmis-

sions, stood by to evacuate casualties, and provided valuable intelligence on OPFOR activities in the security zone and immediately along the FLOT.

The track's role as a relay and alternate NCS was critical. Although the SINCGARS easily transmits 14 to 15 kilometers on line of sight, the dismounted teams, especially when patrolling, could not always broadcast from the high ground. The tracks provided an invaluable redundancy in communications. If the NCS slipped off the net, the tracks relayed information to battalion. Often, the section leader in charge of the tracks would immediately relay an important piece of information that the patrol leader and NCS had not received. Since scout teams are always in danger of dying with valuable information, this role was an important one.

No less important was their role in evacuating casualties. Admittedly, the platoon never got a chance to test the system. The two times the dismount teams took casualties, either the entire team was "killed in action" or the rest of the element was unaware of the casualties until too much time had passed. Still, leaders have an obligation to provide a viable option for evacuating the wounded. The plan was to effect a link-up after carrying the casualties out of the OPFOR sector. While the time consideration in casualty play at the NTC would have rendered these men "died of wounds," in a real-world situation, this plan would have saved some. Any other method of extraction (such as air evacuation) was too risky in such open terrain.

Although these methods were very successful, a number of criticisms were raised before, during, and since our rotation. The most significant of these are outlined and answered as follows:

Scouts who initiate fires die. Scouts are not killers. They must avoid firing upon the enemy. While the actions of our scouts in the security zone may conflict with the typical procedure for NTC scout platoons, it does not violate the six fundamentals of reconnaissance stated in FM 17-98, *Scout Platoon*. The principle of freedom of maneuver was

always used to the greatest possible extent. Surprisingly, the security zone turned out to be a much less dangerous place than we expected for a platoon-sized element that moved continuously and aggressively.

The size of the OPFOR teams in the security zone creates a situation in which there is safety in numbers. Granted, the platoon sacrificed concealment and stealth, but only during movement to the dismount points. From that point on, the dismounted teams use stealth to achieve freedom of maneuver. Conventional wisdom also maintains that scouts who initiate fire die. While this holds true when the enemy has the opportunity to mass, the OPFOR has difficulty doing this at night in the security zone. Besides, the platoon did not sacrifice stealth by firing upon the OPFOR; its movement



techniques had already given its location away. Speed and firepower provided the platoon's security. The platoon's intent was not to engage the enemy, but it often lacked the time to bypass the OPFOR and found it rather easy to overwhelm OPFOR reconnaissance teams with the massed direct fires of six Bradleys.

Relegating the Bradleys to a purely support role during a deliberate attack violates the scout fundamental of maximizing reconnaissance assets forward. The protection, sights, and firepower of the Bradleys are under-utilized. It is true that the dismount teams did not have the benefits mentioned above, but if we had used the Bradleys to infiltrate, the scouts would have had little confidence in their ability to survive. Infiltrating a Bradley is extremely difficult in such terrain. More important, the HIND-Ds

are quite adept at ferreting out the scouts during the day. Bradleys are just too big to hide at the NTC. I suspect that HMMWVs also have difficulty hiding from the HIND-Ds, although to a lesser extent.

The separation between the Bradleys and the dismount teams hinders the platoon's ability to exploit success during any follow-on battalion mission. Further, it makes casualty evacuation even more difficult. Again, keeping the Bradleys with the dismount teams would have made casualty evacuation far easier, but it would also have increased casualties by increasing the signature behind the OPFOR's FLOT. As for flexibility for follow-on missions, the platoon had ample opportunity to effect necessary link-ups for follow-on missions.

Operating a Bradley with a two-man crew significantly reduces its effectiveness. Once again, I agree, but the alternative was to reduce the number of dismount teams. I was prepared to accept some risk on the edges of the security zone and behind the friendly FLOT. On occasion, the platoon begged and borrowed soldiers from other companies to flesh out the crews.

In movements to contact, the platoon focused upon reaching OP locations from which to observe the enemy's movement. Often, scout platoons attempt to strip the OPFOR of its reconnaissance assets while also performing reconnaissance. This dual focus overtasks the scouts. In order to fight enemy reconnaissance, the scouts must be augmented by a destruction force that can kill the enemy's reconnaissance elements. While this does not give the scouts license to ignore the OPFOR reconnaissance, it does place boundaries on their role. Without forgetting that their primary mission is to gather information for their battalion commander, scouts must do everything in their power to locate enemy reconnaissance. Finding reconnaissance assets that have had an opportunity to establish and conceal OP locations is difficult at best, especially if time is constricted, as it almost always is during a movement to contact.

During our task force's movement to contact, the regimental reconnaissance had saturated the area of operations the night before. Instead of attempting to strip OPFOR observation and face the likelihood of heavy attrition, the scouts focused on establishing their own OPs. OPFOR reconnaissance generally sets up OPs in the high ground at the NTC. Consequently, the scouts decided that hugging the north and south walls of the central corridor was much riskier than moving down the East Range road. Using the road made the platoon easy to identify, but it also forced OPFOR gunners to shoot 1.5 kilometers (at night) to hit the Bradleys. Relying on speed and distance for protection, the platoon moved rapidly down the road to its OP locations. Each OP set up in a "keyhole" position along the corridor walls and Hill 876. (A "keyhole" position is one in which the Bradley is backed into a draw that runs perpendicular to the maneuver corridor.) This way, the sides of the draw provided protection from OPFOR observation and friendly bullets. Dismount teams moved higher to obtain a clearer overview of the battlefield.

Time lines and intervisibility lines are particularly critical during a movement to contact. The scout platoon leader must work with the S-2 to ensure that he understands not only where but when to expect the enemy. A thorough knowledge of the timelines permits the platoon leader to accept risk and determine his movement techniques. It is also vital to understand exactly where and how the task force commander expects to fight the enemy. With a solid estimate of when the OPFOR should reach certain points on the battlefield and where his commander expects to fight them, the scout platoon leader can effectively determine where his OPs need to be and how long he has to get them there. Once again, the key is to arrange the OPs in depth along the mobility corridor. This way, they can relay information on the activities of the enemy's trail and lead elements. The platoon must establish the OPs before the OPFOR arrives.

Due to the speed of the operation, the scouts must know exactly where the in-

tervisibility lines are and how best to use them. This knowledge determines OP location, routes, and movement techniques. Relatively easy to determine at the NTC; the scouts must be particularly aware of the intervisibility lines in a movement to contact. These lines tell scouts just where they can maneuver and still maintain concealment. Since the OPFOR uses them to conceal his own movement and may go to ground behind them, the platoon leader must consider them when planning his OP locations. Scouts must have observation over the intervisibility lines to aid their commander.

On a screen line, the terrain does not necessarily demand that a task force place its OPs forward of its reconnaissance destroying elements. In some locations, scouts will find that they can obtain better reconnaissance and security alongside or even behind the reconnaissance killing elements. The critical piece is the location of the ground that provides the best overview of the OPFOR reconnaissance's avenues of approach. As always, scouts must have observers throughout the depth of the security zone and be able to guide the killer teams to the OPFOR reconnaissance.

Resupplying the screen line is always difficult. Our scouts found that the best method was to pull back a vehicle from each OP simultaneously and leave the dismounts to watch the sector. The dismounts must have adequate communications when the tracks move back. Resupplying forward requires too many link-ups. But one of the hazards of pulling the vehicles back is the passage of lines. Units may or may not know where the obstacles are to their front (engineers may neglect to mark lanes). The scout platoon leader needs to coordinate for a guide to get his vehicles through. The battalion must task the friendly forward commander with this mission. Granted, this is an implied task, but the friendly forward commander has a great deal to do and may not emphasize it.

OPs on a screen line must always have enough dismounts to emplace a dismounted OP alongside the mounted

one. The OPFOR uses both dismounted and mounted reconnaissance. Tracks are extremely vulnerable to dismounted Stinger missile teams creeping up on them. Away from the track, this dismounted OP will also provide better hearing. A few short patrols with a GPS can improve the effectiveness of scouts tremendously. Besides being an effective way to find OPFOR reconnaissance, patrols are excellent for identifying TRPs. The OPs must have internal TRPs to improve the effectiveness of their calls for fire. Finally, a liberal use of illumination rounds from the mortars helps identify and disorient the OPFOR. There is a natural assumption that if the OPFOR fires illumination, he is alert to your presence. Illumination also slows an opponent's movement and may even cause reconnaissance elements to choose a different route.

A few final lessons learned about equipment issues: Scouts must be able to transmit and receive in the secure mode. Extra W-4 cables will also help. The abuse equipment takes at the NTC makes these cables a must. Tie-down straps are always in short supply as well; take an extra 40 per track. Finally, take along power cables for the VVS-2s. Our scouts found all their power cables cut, and scouts operate too much at night to work without them.

This article is intended as a starting point for scout platoon leaders and S-2s when wargaming strategy for intelligence. The key is to develop a plan months ahead of a rotation. This way, the platoon can develop SOPs and refine its strategy during train-up.

The NTC is a superlative training event and a tremendous amount of fun. If the scouts can own the night, their task force stands a good chance of succeeding in the battles that lie ahead of them.

Captain Christian J. Henrich led the scout platoon and a line platoon in the 4th Battalion, 6th Infantry, 5th Infantry Division, and served as a company executive officer in the 75th Ranger Regiment. He is a 1990 ROTC graduate of Dartmouth College.

Internal Support by Fire In the Deliberate Attack

CAPTAIN GLEN M. CONNOR

Too often new platoon leaders come to infantry battalions with the idea that a deliberate attack, or any attack for that matter, will occur as it does in the field manuals. As a result, the platoon assault plan often neglects the overwatch support by fire (SBF), and soldiers assault aggressively but with a minimum of friendly suppressive fire. The reason is that they rarely find the text-book overwatch SBF position that will enable them to suppress the whole objective area.

Every assault must have a detailed plan for internal SBF to provide suppressive fires during actions on the objective. The final result of a good plan will be the continuous suppression of enemy positions and the ability to maneuver against them.

More often than not, the SBF element suppresses the enemy while the platoon gains a foothold and then must shift fires off the objective to avoid fratricide. The missing element is immediate pinpoint suppressive fire while the assault element is moving onto the objective. As the light infantry MTOEs (modified tables of organization and equipment) replace M60 machineguns with M249 machineguns (or squad automatic weapons), support elements in future assaults will have to shift off the objective area even earlier. This earlier shift will be made to avoid fratricide, because the M249 is presently fielded without a tripod or a traversing and elevation mechanism, and its

lighter 5.56mm round ricochets more than the M60's 7.62mm round.

Internal fire support provides the necessary pinpoint suppression on the objective and prohibits the enemy from displacing out of the trench or bunker system. It isolates both the bunker or trench leg lying ahead of the assault element and the flanks of the objective during the assault. It allows the clearance teams to concentrate on clearing the trenches and bunkers.

The plan for actions on the objective must account for detailed movement through the entire objective area. The

Internal support provides the necessary pinpoint suppression on the objective and prohibits the enemy from displacing out of the trench or bunker system.

premise mirrors the basic mission of the infantry—"to close with the enemy by fire and maneuver to destroy or capture him, and to repel his assault by fire, close combat, and counterattack." As long as the assault order includes a fire plan and a maneuver plan for each event during actions on the objective, momentum is sustained. Critical events include making the breach, gaining the foothold, knocking out each bunker, and consolidating on the objective.

Internal support can be achieved by a

two-man team, an M249 gunner and a rifleman, taking well-aimed shots. The rifleman provides security for the machinegunner. Both of them must thoroughly understand the assault leader's maneuver plan and also the fire control measures that will be used throughout the assault.

Detailed fire control measures must be planned and rehearsed. These measures must be suited to the current conditions of METTT (mission, enemy, terrain, troops, and time). A few of the tools available to help control fires are chemical lights (including miniature infrared), throwable signaling devices ("Hacky-sacks"), glint tapes, and star clusters.

Whatever techniques and devices are used, observation and control are critical. The soldiers in the internal SBF position must be able to see the trench and enemy positions directly in front of the assault force. They must also be able to take fire commands from the assault element.

As the breach is made, the internal support element is one of the first onto the objective. The assault leader positions his internal support to suppress the bunkers and trench closest to the assault element, as this is the most immediate threat. The company SBF position suppresses the bunkers farthest away from the assault force. As the assault element maneuvers against the bunkers, it clears, secures, and consolidates them. Then members of the

element position their internal SBF to overwatch their flank and, more important, the next bunker and trench the assault force will clear.

The assault leader maintains continual overwatch and suppression of the objective by either bounding the initial SBF position or simply positioning an overwatch element out of the trench line at each critical event. Either way, the objective is seized by a series of bounding actions. The assault force knocks out a bunker, clears it, secures it, and positions an overwatch element that is oriented on the next bunker.

Frequently, the overwatch element has to position itself outside the trench to best exploit fields of fire. It absolutely must be able to see the enemy and put effective fire on him.

The following tactical operation (see sketch) is an example of the principles of internal SBF. It also offers some techniques that have proved successful under the same conditions of METTT:

The company conducts a deliberate attack on a platoon-size objective. The enemy is dug in with bunkers and con-

necting trenches. A platoon SBF position provides suppressive fire initially for the breaching effort. It maintains fire superiority while bangalore torpedoes are emplaced at both breach sites. When the bangalores are blown, the SBF element fires on rapid rate for 30 seconds and then shifts fires to

The plan for actions on the objective must account for detailed movement through the entire objective area.

bunkers 2, 3, and 4. Finally, it shifts off the objective and provides right-flank security as the assault occurs. The assaulting platoons breach and emplace internal SBF positions A, B, and C. Position A provides pinpoint suppression into Bunkers 1 and 2 and enfilade fire on the interconnecting trench. Position B overwatches the area between the two trenches. It can also support the secondary assault into command and

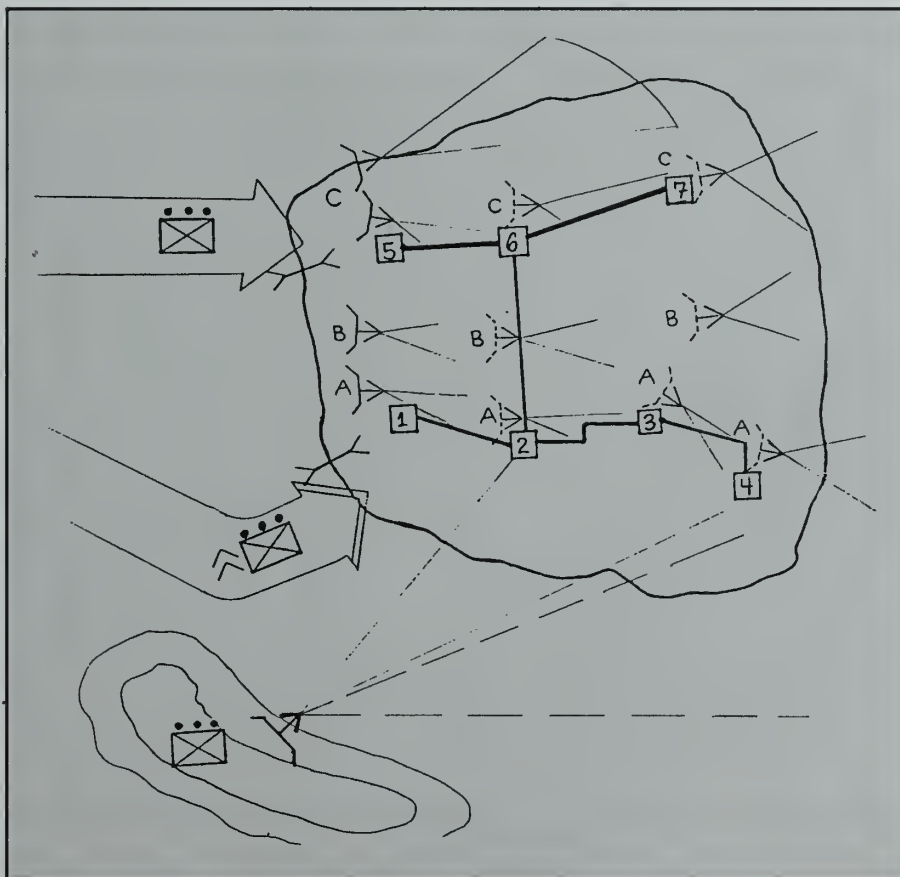
control bunkers 5, 6, and 7. Position C's purpose is to provide pinpoint suppression of bunkers 5, 6, and 7 and the connecting trenches, and to secure the left flank.

The assault element gains the foothold in bunker 1, clears bunker 2, and prepares to assault 3. Positions A and B conduct bounding overwatch to the point from which both will be able to suppress bunkers 3 and 4 as well as 6 and 7 if needed. At the same time, they conduct initial seizure of the area between the two trenches. An element from C bounds to a point where it can support the assault of bunkers 6 and 7, and the rest of C secures the flank. The end state is that the assault element seizes all bunkers, and the SBF positions provide initial security as the force begins consolidation.

Enemy fires, both direct and indirect, may prohibit movement outside the trenches. In this case, SBF positions must still bound successively down the length of the trench, but soldiers providing subsequent SBF positions move directly with the assault team through the trench. As a bunker or trench leg is seized, an internal SBF team is placed outside the trench to overwatch the next event.

Regardless of the situation or the assault technique, the assault leader increases his chances of success if he adheres to the principles of fire, maneuver, and security. By planning for the movement and control of the internal SBF positions, the assault force maintains fire superiority, initiative, and momentum. It meets the enemy under ideal conditions: with one element dedicated to the continual suppression of the objective and another dedicated to seizing and destroying enemy forces that are occupying the objective.

Without a support-by-fire plan, we may gain the foothold, but the assault could stall as we take casualties from enemy positions that have not been suppressed. In this case we have failed to wrest the initiative from the enemy, and he is still able to displace within the trench. We may see him and we may not as he presses the fight into trench and



fighting positions that we have already cleared. He is able to maneuver into our flanks and rear and we lose all momentum. A good SBF plan can prevent this catastrophic turn of events.

There are two keys to making an internal support-by-fire plan work inside the objective: First, the SBF element must locate where it can best observe the next trench or bunker the assault

team will enter, and it must also secure itself. Second, it must be controlled by strict fire control measures during the entire execution of actions on the objective. The assault leader who plans and rehearses these control measures in detail will be able to synchronize his combat power, knock the enemy off balance, and seize and hold the objective.

Captain Glenn M. Connor commanded the headquarters and headquarters company and Company A, 4th Battalion, 27th Infantry, 25th Infantry Division. He has also served in the 4th Infantry Division, and as Aide-de-Camp to the Deputy Commanding General, U.S. Army, Pacific. He is a 1986 graduate of the United States Military Academy and is now attending graduate school at the Colorado School of Mines.

SWAP SHOP

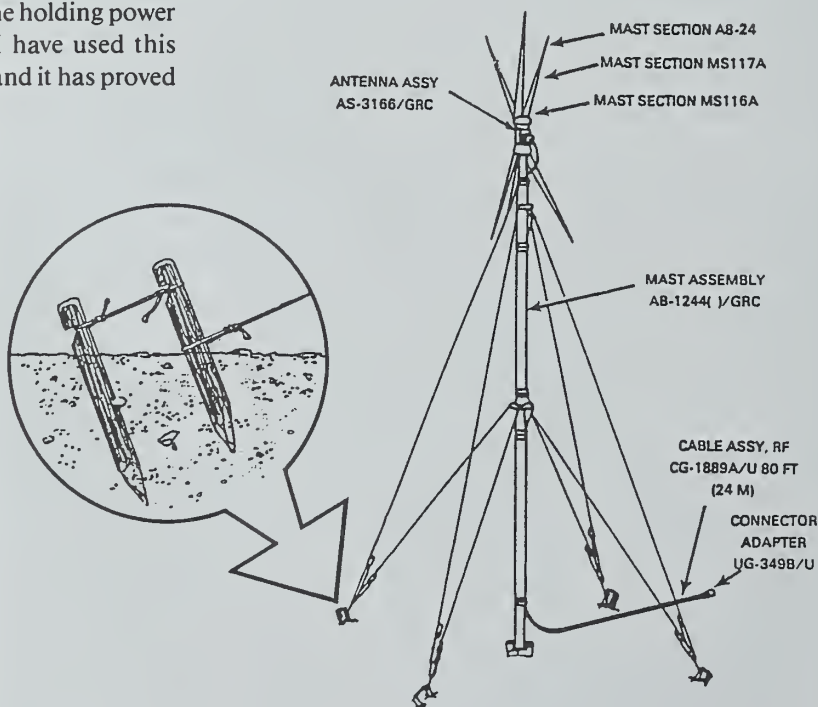


STAKING AN ANTENNA ASSEMBLY

Securing an antenna assembly such as the OE-254 on very soft ground or sand can be tricky. Over the past 15 years, I have seen several such assemblies come loose and fall on soldiers. With masts more than 30 feet high, and with the weight of the antenna near the top, it doesn't take much for the support stakes to work loose from this type of ground.

Two stakes driven deeply into the ground and tied in tandem (see insert) can greatly increase the holding power of the stake attached to the support. I have used this method as far back as the Vietnam war, and it has proved 100 percent successful.

OE-254()/GRC
Antenna Group



(Submitted by Lieutenant Colonel David M. Fiedler, New Jersey Army National Guard, Retired.)

INFANTRY CAREER NOTES



ASSIGNMENTS IN DELTA FORCE

The 1st Special Forces Operational Detachment-DELTA conducts a broad range of missions that require rapid response and the application of unique skills. DELTA's soldiers are therefore carefully selected and specially trained.

Both officers and noncommissioned officers undergo the same assessment, selection, and training process. Those who successfully complete the training are assigned to operational positions within the unit, and they receive unique opportunities for professional development.

Officers have added opportunities to command at the captain, major, and lieutenant colonel levels, or to serve as battalion level operations officers. Various staff positions are also available at the Department of Defense, Department of the Army, Joint Chiefs of Staff, U.S. Army Special Operations Command, and U.S. Special Operations Command and other joint headquarters, as well as interagency postings that become available because of the DELTA training and experience. These assignment opportunities are in addition to those available in their basic branches.

Noncommissioned officers have leadership opportunities similar to those available in the Special Forces. In addition to exceptional training, they are given increased levels of responsibility along with sufficient authority to complete their assigned missions.

DELTA conducts worldwide recruiting twice a year preceding its fall and spring assessment and selection courses. Recruiting for the fall course is from March through August, and for the spring course, from September through February.

To be eligible, an officer or NCO

must meet the following general prerequisites:

- Be a volunteer, male, at least 22 years of age, and a U.S. citizen.
- Be in the Active Army, U.S. Army National Guard, or U.S. Army Reserve.
- Pass a modified HALO/SCUBA physical and eye examination.
- Be airborne qualified or volunteer for airborne training.
- Pass a background security investigation and have at least a Secret clearance (or be granted an interim Secret clearance).
- Have no history of recurring disciplinary action.
- Pass the five-event physical fitness qualification test (inverted crawl, run-dodge-and-jump, pushups, situps, and two-mile run) and the 100-meter swim, all while wearing fatigues or battle dress uniforms and boots.
- Have a minimum of two years of active service remaining upon selection to DELTA.

An NCO must be in the rank of sergeant through sergeant first class, with a minimum of four years time in service, and a minimum GT score of 110.

An officer must be in the rank of captain or major (branch immaterial), be an officer advanced course graduate, and have a bachelor's degree, with at least 12 months of successful command as a captain.

For additional information, call DELTA recruiters at 1-800-606-1370, or DSN 236-0689/0649; or call collect on the commercial line—(910) 396-0689/0649.

DELTA is also interested in soldiers with combat support and combat service support military occupational specialties (Active Army only). For information on support prerequisites and assignment opportunities, call DELTA's support recruiter, SFC Esperanza

Traino, at DSN 236-0986 or collect on the commercial line—(910) 396-0986.

LOGISTICS DEVELOPMENT COURSE

The Associate Logistics Executive Development Course (ALEDC) is open to qualified active and reserve component officers and DOD civilians.

This premier Army logistics course focuses on preparing its participants for executive and policy-making peacetime and mobilization assignments. The five-phase course, available either by correspondence or in a two-week resident course, provides insight into the multifunctional areas of logistics. It broadens a student's understanding of the Army in the field, the Department of Defense logistics structure, and the U.S. industrial base.

To be eligible, officers must be in the ranks of captain and above with primary or secondary combat service support specialties (15D, MSC 70 series, 88, 90, 91, 92) and must have completed a branch officer advanced course or the Combat Logistics Officer Advanced Course. Civilians must be in the grade of GS-12 or higher with career status and five years of experience in military logistics.

For Reserve officers, the course satisfies the educational requirements for promotion to lieutenant colonel under Army Regulation 135-155 and meets the institutional training requirements of DA Pamphlet 600-3 for award of functional area 90A, Logistician.

Reserve officers may obtain more information from their personnel management officers at the Army Reserve Personnel Center, St. Louis, Missouri.

FORCE MANAGEMENT COURSE

The Army's new four-week Force Management Course replaces the original three-week course, held at Fort Leavenworth, Kansas, which was designed to give personnel going into the force structure a head start. The new course, held at Fort Belvoir, Virginia, has the same fundamental purpose, with the added feature of giving students a better overall view of the processes that make the Army function.

During the first three weeks, instructors focus on the Army staff's relationship with the Office of the Secretary of Defense and the Joint Chiefs of Staff, with emphasis on the planning, programming, and budgeting execution system cycles. For the final week, students choose one of three electives: force structure, documentation, and logistics.

Students who will be working in force

structure or program analysis and evaluation positions benefit most from the course.

Course requirements are outlined in the Army Training Requirements and Resources System under SC 134, course number FM-100.

COLLEGE CREDIT FOR RESERVE TRAINING

Whether they know it or not, most Army Reservists have taken courses, trained, or earned specialties that are worth college credit.

The greater the correlation between the soldier's military training and the content of specific college courses, the more credit he can earn. Technical training—medical, electronics, or accounting, for example—will earn more credit than training to fire an M16, but some college credit is available for almost all military training.

To obtain credit, Reservists must ask

for an evaluation of their experience and training. This evaluation is conducted using the Guide to the Evaluation of Educational Experiences in the Armed Services, produced by the American Council on Education (ACE).

The other major source of nontraditional college credit is the Defense Activity for Non-Traditional Education Support (DANTES) testing program, which includes the DANTES Subject Standardized Tests (DSSTs), the College-Level Examination program (CLEP), and the American College Testing Proficiency Examination program (ACT PEP).

Each college establishes standards for awarding test-based credit, and only the college can award credit. Soldiers should therefore ask counsellors at colleges they plan to attend about the policy on awarding credit, and seek an evaluation of nontraditional college credit available to them.



BOOK REVIEWS



***Prodigal Soldiers: How the Generation of Officers Born of Vietnam Revolutionized the American Style of War.* By James Kitfield. Simon & Schuster, 1995. 476 Pages. \$25.00.** Reviewed by Dr. Charles E. White, Infantry School Historian.

Notwithstanding its bizarre title, *Prodigal Soldiers* is an interesting, informative, and keenly perceptive book on the rebuilding of the United States' armed forces after Vietnam. Author James Kitfield traces the careers of a number of the senior commanders of Operation DESERT STORM from their days in Vietnam through the "hollow" force of the 1970s and the reforms of the 1970s and 1980s. He suggests that it was these men who provided the impulse that led to the renaissance of the American military from one of the lowest points in its history to the peak of perfection it demonstrated during the Persian Gulf War.

This book covers one of the most dynamic periods of change in American military history. Rebuilding the armed forces of the United States after its debacle in Vietnam was an extraordinary achievement, and Kitfield's broad-brush approach leaves the reader spellbound by the sheer magnitude of this accomplishment.

Among the topics Kitfield discusses is the establishment of the all-volunteer force in 1973, which has become one of the finest institutions in American history. Another area he addresses is the revolution in military training, which moved the armed forces away from rote classroom lecture and range firing to a new training model of fluid, force-on-force, simulated combat. At the same time, the military services revolutionized their doctrine, discarding the industrial model, attrition tactics of the past, and adopting the "AirLand Battle" style of maneuver warfare. Along the way, Kitfield imparts an enormous amount of information about military life in America. But the most important aspect of this book may be the way the military reformed itself through constructive self-criticism—a remarkable transformation that is still largely unknown to the American public.

In writing this moving narrative, Kitfield selected a few characters around whom to

create his fascinating story. The most prominent actor in his play is Barry McCaffrey, who comes on stage as a West Point graduate eager for that taste of war and emerges wearing three—and eventually four—stars after having commanded the 24th Infantry Division during Operation DESERT STORM. Army Generals Paul Gorman, John Galvin, Edward "Shy" Meyer, and Norman Schwarzkopf play supporting roles, as do Marine Generals Walter E. Boomer, James M. Myatt, and Thomas V. Draude; U.S. Air Force Generals Wilbur Creech and Chuck Horner; and Navy Admiral Stanley Arthur. Even Colin Powell makes a cameo appearance. Kitfield portrays all of these men as strong, progressive combat leaders, which they certainly are.

Prodigal Soldiers portrays a military force that is in perfect harmony with itself and the American people. Once scorned by intellectuals and rejected by popular culture (yet continually asked to surrender their lives in enterprises both wise and foolhardy), the armed forces are now ranked among the finest institutions in the United States. One comes away from reading this book feeling good. Indeed, Kitfield's style is mesmerizing, and his beautifully written book is hard to put down.

***The Nightingale's Song.* By Robert Timberg. Simon & Schuster, 1995. 543 Pages. \$27.50.** Reviewed by Dr. Joe P. Dunn, Converse College.

This captivating book is the story of five graduates of the U.S. Naval Academy, all Vietnam veterans, who achieved high status in the Reagan administration, and who suffered significant failure and defeat at the time: James Webb—Marine, best-selling novelist, and controversial Secretary of the Navy—resigned after a stormy tenure. John McCain spent five and one-half years as a prisoner of war in North Vietnam, returned to a meteoric political career, first in the House of Representatives and then in the U.S. Senate, before a humiliating association in the Savings and Loan scandals tainted his image. He survived, however, to become one of the highest-profile political figures in the

nation today. Bud McFarlane, a distinguished Marine in Vietnam, made his mark as a foreign policy intellectual, rising to be the National Security advisor. John Poindexter, first in his class at the Academy, had a spotless Navy career that culminated in his position as McFarlane's successor. Oliver North, the ultimate self-promoter, whether in Vietnam combat or in the halls of power in Washington, used his resourceful can-do energies to achieve power that was far beyond his maturity to handle. After brilliant careers, McFarlane, Poindexter, and North all went down to inglorious defeat in the Iran-Contra debacle.

Author Robert Timberg, also a Naval Academy graduate and Marine Corps veteran of Vietnam, was the White House correspondent for the *Baltimore Sun* during the Reagan years and is now Deputy Chief of the *Sun's* Washington bureau. This weaving of the lives of the five individuals has several objectives. Timberg claims to show how a generational chasm exists between those who did and did not serve during the Vietnam war, how unresolved conflicts over Vietnam played out in the Reagan administration, and how the Iran-Contra affair was an after-flash of Vietnam.

Although Timberg's effort to give his topic a more cosmic significance is not very successful, the book warrants attention merely as a collective biography of five very interesting individuals, men of monumental talent and equally monumental flaws. Their mutual experiences at the Academy, their Vietnam sagas, their rise to power in the Reagan years, and their downfall constitute a powerful story that needs no larger context. With the exception of the reckless and immature North, Timberg clearly respects his subjects. He also clearly portrays the inadequacies of Ronald Reagan (the Nightingale of the title).

With many similarities to Rick Atkinson's *The Long Gray Line* (1989)—an account of the Vietnam experience and after of the West Point class of 1966—*The Nightingale's Song*, all pretensions aside, is simply a fascinating book.

***Who Will Lead? Senior Leadership in the United States Army.* By Edward C. Meyer, R. Manning Ancell, and Jane Mahaffey. Praeger, 1995. 268 Pages. \$59.95.** Reviewed by Lieutenant Colonel Harold E. Raugh, Jr., U.S. Army.

Former Army Chief of Staff General Edward C. Meyer, assisted by R. Manning Ancell and Jane Mahaffey, wrote this book ostensibly to evaluate the leadership of Army full (four-star) generals during and since World War II and the formative experiences of those who later achieved that rank. Since the last half-century has been a period of profound change in the world, the authors have further attempted to draw conclusions "concerning the impact of those changes on the officer corps and its leadership."

Beginning with "Marshall, Arnold and Their Generals," this study concentrates on the professional development of the 17 men who earned four stars in World War II; their common leadership, staff, and educational experiences; and their frequently intertwined careers during the interwar years. From that point on, the study chronicles the careers of the Army's senior leaders through Barry R. McCaffrey, who was promoted to general on 17 February 1994.

The authors' theme, although ambiguous and underdeveloped, seems to be the role and importance of mentorship. Although it is never actually defined, the infrequent references to mentorship imply it is the same as "sponsorship," includes influencing "others through efficiency reports," and is perhaps a form of favoritism. This is in conjunction with a subtle pro-West Point stance that permeates the book. The study concludes that future leadership will require three unique areas of expertise: politico-military, manager/technician, and operational commander. Like the senior leaders of the past, future leaders must also be "leaders of character dedicated to a lifetime of service to our nation."

This confusing book seems to be Meyer's memoir, interspersed with long quotes—often irrelevant, gratuitous, and out of context—from generals lauding the accomplishments and attributes of fellow generals. The study is disjointed, with the only continuity being provided by a general chronology of the events described. In addition, the text contains inconsistent capitalization of terms and titles, unexplained abbreviations, an incomplete and inaccurate index, and numerous quotations for which no source is cited (three on page 77 alone). In addition, the use of nicknames

when introducing general officers—which might be acceptable in an autobiography—is not appropriate in what is supposed to be a serious study. Neither are such phrases as computers being "more of a pain in the ass than a help."

Although the study of leadership and the stated intent of *Who Will Lead?* are certainly worthwhile, this book is not a success. It is inadequately researched, poorly written, and badly edited. Infantrymen should not spend their valuable time or money on this muddled and wholly unsatisfying book.

***This Kind of War.* By T.R. Fehrenbach. Brassey's, 1994. 483 Pages. \$28.00.** Reviewed by Lieutenant Colonel Albert N. Garland, U.S. Army, Retired.

This is a reissue of a book originally published in 1963 under the title *This Kind of War: A Study in Unpreparedness*. It was well received then and is still widely read by U.S. infantrymen. It is one of the most popular studies of the Korean War.

Today's readers should understand that Fehrenbach's version of the Korean War may or may not be historically correct in all of its details. He admits this and in an introductory note states that "portions of the book may be more hearsay than history—and a sense of personal outlook must color each narrative."

With that caveat in mind, the infantryman who selects this book to read will find it one of the best collections of well-written accounts of war he is likely to encounter. Fehrenbach can write, no doubt about it. But his style concentrates on the personal story, and this means that certain individuals—Brigadier General Hayden Boatner, for example—receive a disproportionate amount of coverage while others equally deserving of mention get short shrift or no mention at all.

Throughout his narrative, Fehrenbach throws in numerous and pungent comments about all manner of things, although most of these are directed at the poor condition of our soldiers and their equipment and their almost total lack of professionalism. He blames the latter on the "civilianization" of the Army between 1945 and 1950. As he puts it (page 60), the America of 1950 "had an army of sorts of civilians, who were as conscious of their rights and privileges as of their duties. . . . Citizens. . . are apt to be a rabble in arms."

The reader should pay particular attention to Fehrenbach's cutting remarks on pages 291-299, and to the lessons he draws

from the Korean War in his last chapter. At the same time, the reader should not ignore the five volumes in the Army's official Korean War series or the four semi-official volumes written by the late Roy Appleman in more recent years and published by the Texas A&M University Press. These nine volumes will fill the historical void in Fehrenbach's book.

***Elite Warriors: The Special Forces of the United States and its Allies.* By George Sullivan. Facts on File, 1995. 132 Pages. \$17.95, Hardcover.** Reviewed by Michael F. Dille, Davidsonville, Maryland.

This book offers an overview of special operations forces. More than half of it is devoted to various U.S. units—Army Special Forces, Navy SEALs, Army Rangers, and Air Force Special Operations. The rest briefly covers units of eight countries, with the last paragraph mentioning an additional three. Considering the size of the page (about 4x7½ inches of print area), and the large type and photo format, that's not enough room to devote to this subject.

Sullivan never really makes it clear what criteria he used in choosing certain U.S. units, other than a passing reference to the U.S. Special Operations Command (USSOCOM). Even so, he doesn't go into detail about that command or how it employs its forces. By limiting himself this way, he has not included any discussion of Marine Corps special units (Raiders, Paratroops, Air and Naval Gunfire Liaison Company, and Reconnaissance) or the Air Force Pararescue units and combat control teams. The result is a superficial coverage of the subject matter except in two places: SFOD-Delta is a separate chapter, but further discussion of other U.S. counterterrorist capabilities is buried in a paragraph here and there. This chapter and the section that deals with the Special Air Service resolution of the Iranian embassy siege in Princes Gate contain the best writing of the book.

Other problems, I think, indicate a lack of editing, although the author should have caught them as well. He explains three times how a "flashbang" works but cannot make up his mind how many Israeli athletes were murdered in Munich in 1972, saying nine in one chapter and eleven in another.

Although Sullivan tries to give some historical background on the units he discusses, he is inconsistent. In some cases, he includes information going back to World War II, but in others barely offers any historical information. The history of the

German *Gebirgsjaeger* units is covered in detail, while the chapter on Israeli units concentrates mostly on the Entebbe raid. In addition, some of his history is incorrect; for example, the unit known as “Merrill’s Marauders” was not flown to India—it went by ship (the S.S. *Lurline*, in fact). Air Force Special Operations history is covered in a single sentence. He spends five pages discussing World War II Ranger units but dismisses the Ranger long-range reconnaissance patrol efforts in Korea and Vietnam in two short paragraphs. And he neglects to mention the U.S. Army Ranger School, in my estimation a significant part of Ranger history. In some sections, he discusses recent operations, but with no mention of Mogadishu, where special operations forces he had included earlier were employed. A short section on Canada fails to mention the recent scandals and disbanding of its parachute unit, even though this unit is discussed.

This book appears to have been, originally, a series of separate articles put together in book format without cohesive transition and balance. For anyone interested in a broad treatment of special operations forces, several other recent books are much better. These include: *The Commandos: The Inside Story of America’s Secret Soldiers*, by Douglas C. Waller (Simon & Schuster, 1994); *Secret Armies: Inside the American, Soviet, and European Special Forces*, by James Adams (Atlantic Monthly Press, 1987); *Special Operations and National Purpose*, by Ross S. Kelly (Lexington Books, 1989); *Swords of Lightning: Special Forces and the Changing Face of Warfare*, by Terry White (Brassey’s, 1992); and *The World’s Elite Forces*, by Walter N. Lang, Peter Eliot, and Keith Maguire (Military Press, 1987).

***The Anzac Illusion: Anglo-Australian Relations During World War I.* By E.M. Andrews. Cambridge University Press, 1994. 274 Pages. \$49.95.** Reviewed by Lieutenant Colonel Harold E. Raugh, Jr., U.S. Army.

History has led us to believe, as a result of experiences in World War I, and especially at Gallipoli, that the Australian soldiers were recognized by the British as superior troops and that as a result the Australians enjoyed a special relationship with the British. This is one of the many—albeit perhaps the most significant—legacies of Australian participation in the Great War that the author demonstrates as being “myths.”

Dr. E.M. Andrews, an associate professor

at the University of Newcastle, focuses on the “Anzac [Australian and New Zealand Army Corps] illusion”—how, why, and by whom these “illusions” were created and perpetuated. He chronicles in rich detail the relationship between Great Britain and Australia during the decade preceding World War I, stressing all aspects of their military, economic, political, and psychological relationships. These relationships were dynamic, with Britain wanting Australia to share the “burden of Empire” and to be integrated into British defense plans. In 1941 Australia was part of the British Empire, not an independent sovereign state, which meant that when the King of England declared war, Australia was also at war.

Gallipoli was crucial to the development of the Anzac legend. Combined with press censorship, the Anzacs were glorified to cover up incompetent military leadership (both British military and Australian), poor tactics, and scandalous transport and medical arrangements. Subsequent military performance on the Western Front, notably at Fromelles, Pozieres, and Bullecourt, reveal that the Anzacs—or at least the Australians (since the New Zealanders seem to have been more competent and disciplined soldiers)—did not deserve the lofty reputation fabricated for them. Indeed, in 1917 the Australians had an absent-without-leave rate 12 times higher than that of the other divisions in the Third Army, and in March 1918, nine times more Australian than British soldiers were in prison. (Admittedly, Australian military performance seemed to have improved in 1918—as the quality and strength of the German Army declined.)

The author has mined numerous primary source document repositories in Australia and England, and the detailed endnotes indicate the depth and soundness of his research. Some two dozen contemporary photographs and three maps enhance the easy-to-read text.

Although not strictly a military history, this thought-provoking and well-written book sheds great light on British-Australian relationships in the early 20th Century (especially World War I). In doing so, it reveals numerous historical “myths” that have continued to this day and deserves a wide readership.

***Sheridan: The Life and Wars of General Phil Sheridan.* By Roy Morris, Jr. Crown Publishers, 1992. 464 Pages. \$25.00.** Reviewed by Major Don Rightmyer, U.S. Air Force, Retired.

For several years, General Philip H. Sheridan has been considered one of the leading Union Civil War generals deserving of a more complete biography. His rise in rank was meteoric, from lieutenant in the early days of the war to major general with a leadership role in numerous decisive actions in the eastern theater by the war’s end. With the publication of this book by Roy Morris, Jr., editor of *America’s Civil War*, Sheridan has finally received his long-awaited, in-depth biographical treatment.

An 1853 West Point graduate, Sheridan began his active army career in the far western United States and gradually moved eastward. He first reported to the “most out-of-the-way posting on the entire frontier”—Fort Duncan, Texas. Later, he went to Fort Reading, California, and subsequently into the northwest areas of what are now Oregon and Washington in response to unrest among the Indians.

When the Civil War erupted, Sheridan, who had gone without a promotion for eight years, abruptly became a first lieutenant and then a captain two months later. He wrote to friends that if the war persisted, he might even hope to make major. The early days of the conflict, however, still found him in the western backwaters, yearning for combat. In fact, assignment to a more likely combat theater still found him straightening out the muddled supply affairs of the western Union army forces, where he came to the attention of General Henry W. Halleck.

In May 1862 he was promoted to the colonelcy of a Michigan cavalry regiment and in the summer of 1862 was reassigned to infantry and sent to Kentucky to help counter the invasion of Braxton Bragg’s Southern forces. He served with distinction at Perryville, Stones River, the early 1863 campaign through Tennessee, and the Union defeat at Chickamauga. In May 1864, Sheridan moved to the command of a corps of cavalry in Meade’s Army of the Potomac. He served alongside that army throughout the early battles such as the Wilderness and defeated Confederate cavalry general J.E.B. Stuart at Yellow Tavern. Dispatched to command the Army of the Shenandoah, he roamed throughout that valley and defeated the Southern army at Cedar Creek. As the war drew to a close he was again in the Petersburg-Richmond area and with the Union army as it cornered Lee’s forces near Appomattox Courthouse.

After the war ended, Sheridan continued on active duty and helped squelch problems along the border with Mexico as well as with unreconstructed rebels in the South. Most of

his postwar years were again spent in the West where he commanded army forces trying to deal with the Indians. In November 1883 he was moved to replace W.T. Sherman as Commanding General of the Army.

Morris has written an outstanding military biography of this controversial Army leader. He provides a fairly even-handed look at Sheridan, a figure who presents a challenge for objective historical analysis. His recounting of Sheridan's far-ranging military career also provides an excellent appreciation of the life and experiences of soldiers in the army from the mid-1850s through the later part of the century.

Brave Decisions. By Colonel Harry J. Maihafer. Brassey's, 1995. 224 Pages. \$23.95, Hardcover. Reviewed by Colonel George G. Eddy, U.S. Army, Retired.

A book that presents 15 decisions of moral courage in desperate situations by renowned military officers—many known worldwide, such as U.S. Grant, Robert E. Lee, Douglas MacArthur, and Norman Schwarzkopf—is bound to attract attention. This highly readable and well-organized book offers many dramatic events that hold a reader's eager attention throughout. Spanning the period from the Revolutionary War to Operation DESERT STORM, it describes circumstances that inspire and episodes that brought out the best in top leaders—men who did not fail when faced with crisis situations.

Those who have read a considerable amount of military history will find much familiar ground here, but they may have overlooked the moral courage that was often the foundation for the physical courage that followed. The author helps provide the right perspective. While some readers may believe that there are other more noteworthy examples, the author's choices clearly illustrate the significance of moral courage.

Grant demonstrated his moral courage throughout his illustrious career, probably more strongly later than in Panama; for example, the near catastrophe at Shiloh after which he seemed ready to quit. A challenge could be made that Lee's agonizing decision to resign his commission to join the Confederacy was not of the same order as his subsequent battlefield decisions. He repeatedly risked defeat by substantially weakening strong positions to put everything into slashing flank attacks, in the manner of Stonewall Jackson.

After Japan's surrender in 1945, MacArthur's decision to land unarmed was a

courageous move. But it was not as courageous as his blunt challenge to Franklin D. Roosevelt that the president would have to answer to the nation for the consequences of his severe budget cuts that weakened the Army. MacArthur reportedly said, "When we lose the next war, and an American boy with an enemy bayonet through his belly and an enemy foot on his dying throat spits out his last curse, I want the name not to be MacArthur, but Roosevelt."

As for Al "I'm-in-charge-now" Haig, he should have been replaced in the book by someone more worthy, such as Chester Nimitz. Nimitz had the moral courage to risk all his precious major naval forces in the turning-point battle at Midway based on his trust of his intelligence officer, Commander Rochefort. American POWs such as John McCain deserve recognition for the ultimate in moral courage in holding out against ceaseless physical and psychological torture year after year when all chance of rescue seemed lost.

Perhaps the author will consider a sequel to highlight other sterling examples of moral courage. In the meantime, we can appreciate what he has revealed to us.

RECENT AND RECOMMENDED

Paladin Zero Six: A Desert Storm Memoir by a 101st Airborne Attack Helicopter Company Commander. By Rafael J. Garcia, Jr. McFarland (Box 611, Jefferson, NC 28640), 1994. 168 Pages. \$17.50, Softbound.

The Forgotten Front in Northern Italy. By Robert H. Schmidt. McFarland (Box 611, Jefferson, NC 28640), 1994. 192 Pages. \$24.95.

From Hot Air to Hellfire: The History of Army Attack Aviation. By James W. Bradin. Presidio Press, 1994. 256 Pages. \$21.95.

The Magnificent Bastards: The Joint Army-Marine Defense of Dong Ha, 1968. By Keith William Nolan. Presidio Press, 1994. 320 Pages. \$24.95.

Marching Toward the 21st Century: Military Manpower and Recruiting. Edited by Mark J. Eitelberg and Stephen L. Mehay. Contributions in Military Studies Number 154. Greenwood Press, 1994. 272 Pages. \$57.95.

Anzio: Epic of Bravery. By Fred Sheehan, with new foreword by Martin Blumenson. (First published in 1964.) University of Oklahoma Press, 1994. 256 Pages. \$14.95, Softbound.

Following the Guidon. By Elizabeth B. Custer, with an introduction by Shirley A. Leckie. (Reprint of the Harper & Brothers 1890 edition.) University of Nebraska Press, 1994. 416 Pages. \$12.95, Softbound.

Following the Guidon: Into the Indian Wars with General Custer and the Seventh Cavalry. By Elizabeth B. Custer, with an introduction by Jane R. Stewart and a new foreword by Robert M. Utley. Western Frontier Library, Volume 33. Reprint of 1966 new edition. University of

Oklahoma Press, 1994. 412 Pages. \$12.95, Softbound.

The Laws of War: A Comprehensive Collection of Primary Documents on International Laws Governing Armed Conflict. Edited by W. Michael Reisman and Chris T. Antoniou. Random House, 1994. 448 Pages. \$13.00, Softbound.

Changing Orders: The World's Armies Since 1945. By Peter G. Tsouras. Facts On File, 1994. 368 Pages. \$40.00.

Battle Group!: German Kampfgruppen Action of World War Two. By James Lucas. (Published in Great Britain by Villiers House, 1993.) Sterling, 1994. 224 Pages, 65 Illustrations. \$24.95.

Normandy, 1944: Allied Landings and Breakout. By Stephen Badsey. (First published in Great Britain in 1990.) Osprey Military Campaign Series Number 1. Reed Consumer Books, 1994. 96 Pages. \$14.95, Softbound.

Seize and Hold: Master Strokes on the Battlefield. By Bryan Perrett. Sterling, 1994. 240 Pages. \$24.95.

When the Eagle Screams: America's Vulnerability to Terrorism. By Stephen Bowman. Carol Publishing Company, 1994. 248 Pages. \$21.95.

Bravo Two Zero. By Andy McNab. (Published in Great Britain by Bantam Press, 1993.) Island Books, 1994. 412 Pages. \$5.99, Softbound.

Dirty Little Secrets of World War II: Military Information No One Told You About the Greatest, Most Terrible War in History. By James F. Dunnigan and Albert A. Nofi. Morrow, 1994. 414 Pages. \$25.00.

Foundations of Moral Obligation. The Stockdale Course. By Joseph Gerard Brennan. Presidio Press, 1994. 286 Pages. \$14.95, Softbound.

The Army Times Book of Great Land Battles: From The Civil War to The Gulf War. By Colonel J.D. Morelock. Berkley Press, 1994. 331 Pages. \$28.95.

To Protect and To Serve: The LAPD's Century at War in the City of Dreams. By Joe Domanick. Pocket Books, 1994. 497 Pages. \$23.00, Hardbound.

Fighting by Minutes: Time and the Art of War. By Robert R. Leonhard. Praeger, 1994. 216 Pages. \$55.00.

Guide to Military Installations. Fourth Edition. by Dan Cragg. Stackpole, 1994. 480 Pages. \$18.95, Softbound.

Misfire: The History of How America's Small Arms Have Failed Our Military. By William H. Hallahan. Charles Scribner, 1994. 580 Pages. \$30.00.

The Irish Brigade and Its Campaigns. By Captain David Power Conyngham. Irish in the Civil War Series. Fordham University Press, 1994. 616 Pages. \$27.50.



From The Editor

ADVICE FOR INFANTRY AUTHORS

Each year we receive manuscripts from lots of aspiring authors. The length and quality of these submissions vary greatly, and when the smoke clears away we end up accepting only about half of them.

Let me tell you why manuscripts are rejected, and then how to improve your chances of seeing yours in print. We do not accept poetry, fiction, irrelevant accounts of battles, articles whose only purpose is to praise individuals or units, or articles on subjects we've covered in recent issues. If we finish reading a manuscript—we read all of them—and the phrase “So what?” comes to mind, we'll send it back. But we are reluctant to reject a draft without telling the author what's wrong, so we sometimes include recommendations for improvement, another subject that is of interest to us, or even the name of another publication for which the material is better suited.

What we look for, first and foremost, is substance. Simply stated, substance consists of the point the writer wants to make and all the information that supports it. An article must be relevant to the professional development needs of today's leaders. Next in order of importance is the organization of the piece. If the thesis is stated early on, and the writer's supporting arguments follow logically, the article is well on its way.

A third consideration is the style the author chooses; we strive for a conversational style, simply and clearly expressed, because it can be understood in a single reading. Write the way you speak, because it comes naturally. Don't use a big word if a small one will do. Don't write to impress the reader; just write well, and you will impress him anyway. Use only words and phrases whose meaning you understand, and if you use acronyms, explain what they mean. While you're at it, pay attention to the audience you're writing for—in our case, company and battalion level infantrymen.

The final consideration is correctness, and this is where the reader's first impression of a writer is usually formed. The basic standards of vocabulary and good usage are as valid today as they were a century ago; they make the difference between a polished final work and what may look like a hastily composed draft. If the details are sloppy, they may call into question the accuracy of the facts and assertions in the piece.

What about illustrations? Diagrams and photographs should support—not take the place of—text. Past issues of INFANTRY will provide examples of how illustrations should be used, as well as the type of photos we're looking for.

The last point I want to touch on is the format of a submission; it should be in a double-spaced draft—in type of normal size—on white bond paper. Include a disk if you like (we may be able to use it), but most submissions are only in paper copy, and that is acceptable. Be sure to include a telephone number, so we can reach you with any questions we may have.

This has been a brief review of what we're looking for when we review a manuscript. You have the key ingredient, and that is the subject matter expertise that INFANTRY's authors have been sharing with our armed forces and those of other nations around the world for 74 years. The only way to get published is to write, and that is what I encourage you to do. If you have an idea for an article, write or call me, and we'll talk about it.

RAE

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